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THE

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BEE-KEEPER, AND POULTRY CHRONICLE.

A JOURNAL OF GARDENING, RURAL AND DOMESTIC ECONOMY, BOTANY, AND NATURAL HISTORY.

CONDUCTED BY

GEORGE W. JOHNSON, F.R.H.S., AND ROBERT HOGG, LL.D.

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TO OUR READERS.

———— × ————

Every one must have had that temper-trying personage, a plain-spoken friend—one who is aptly described as "always calling a spade a spade," and as aptly might it be added, "and always using it as a spade" by digging with it unmercifully. We have such a friend, and you, our Readers, know her too; but so many months had elapsed without her delving into us that we began to hope—we think we did not hope that she was dead—but we began to hope that she had given us up as incorrigible. The cherished delusion is dissipated, for we have the note following—

"Cackleton Hall,
"*Innocents' Day*, 1869.

"Miss Penelope Pomeroy's compliments, and wishes to know what improvements the Editors intend to make in their Journal. They were very prone to changes at one time, and had a change of office, change of publishing day, and change of name; but now when other journals are making changes the Editors remain stagnant. Why don't they print the Journal on toned paper, or alter its type, or add some such department as 'Pug Dog and Parrot Chronicle' to its many titles? Miss P. P. knows both the Editors from their photographs, and begins to call them her 'old Gooseberries;' and by way of distinction she calls one her 'smooth old Gooseberry,' and the other her 'hairy old Gooseberry.'"

We shall not gratify Miss P. P. by revealing whether one of her 'old Gooseberries' became more red and the other more pale upon perusing that note. They have not even posted to her a reply, but they here print it.

"The Editors' compliments to Miss Penelope Pomeroy, and they do not purpose making any change in the Journal, and for that most satisfactory of reasons—there is no occasion for it. Their Readers are satisfied, their Correspondents are satisfied, and the Editors are satisfied; and they are quite contented to be called 'her Gooseberries,' because they hope it intimates her intention to preserve them."

Our Readers will appreciate the concluding sentence; and we have purposely omitted any allusion to the senility of the Gooseberries, because we feel there is no occasion for it.

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WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 1—7, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
1	Th	Royal Botanic Society's Show closes.	74.9	50.8	62.8	18	49 af 3	17 af 8	morn.	after.	21	3 31	182
2	F	Tunbridge Wells Horticultural Show.	73 3	51.0	62.1	16	49 3	17 8	6 af 0	31 0	(	3 42	183
3	S		74.1	50 2	62.2	18	50 3	16 8	2× 0	37 1	23	3 54	184
4	Sun	6 Sunday after Trinity.	76.0	50.4	63.2	13	51 3	16 8	48 0	44 2	24	4 4	185
5	M	Meeting of Entomological Society.	74 8	50.4	62.6	16	52 3	16 8	12 1	51 3	25	4 15	186
6	Tu	Royal Horticultural Society, Fruit, Floral,	76.1	51.0	63 5	20	53 3	16 8	40 1	59 4	26	4 25	187
7	W	[and General Meeting.	73.6	50.9	62.2	23	54 3	15 8	16 2	8 6	27	4 35	188

From observations taken near London during the last forty-two years, the average day temperature of the week is 74 7°; and its night temperature 50 7° The greatest heat was 97°, on the 5th, 1852; and the lowest cold 35°, on the 7th, 1864. The greatest fall of rain was 1.18 inch.

THE ROSE.

IN no flower are usefulness and beauty more happily combined than in the Rose; so highly are its blossoms esteemed, that although those of some members of its family expand early in spring, and other sections flower throughout the summer, and continue to do so till winter nips them, yet we are not satisfied, for no sooner do we perceive the approach of winter than our thoughts revert to our pot Roses, which, having matured their growth, and been gradually prepared for the purpose, are now brought forward in successive relays, in order to afford a continuous supply of their charming flowers throughout the winter. And thus do we wreath the year round with a bright garland of the blossoms of our floral queen, most gladly yielding ourselves to the refining influence of her gentle sway; never swerving from our allegiance, never faltering in our loyalty, although at times rudely assaulted by the rampant followers of the republican Mrs. Pollock, who, shaking their tricolor flags in our faces, seek to dazzle us with their brilliancy. Tricolors forsooth! let them try colours with the Rose, and their harsh leaves will quickly have to succumb to the delicacy and polish of a Rose petal.

Amongst the different sections of the Rose family, none are more justly esteemed than the Tea and Noisette Roses, which are invaluable on account of their coming into bloom early in spring, and also succeeding the latest autumnal blooms of the Perpetuals; and when planted in sufficient numbers, they will always ensure a supply of flowers until severe frost set in. The weaker kinds, such as Gloire de France, Elise Sauvage, and Devoniensis are admirably adapted for filling up any vacant spaces between fruit trees on walls; and the more rampant kinds are quite worthy of the greater space which their vigorous growth demands. Nothing suits Cloth of Gold so well as a large gable or two over which it may ramble unchecked by the pruning knife. Solfaterre, too, and Gloire de Dijon are lovely ramblers, which if pruned much make a strong growth, but do not bloom so freely as they would if their growth were only slightly shortened. Lamarque is not so rampant as some, but for purity and delicacy of colour it is unrivalled. In cutting some flowers for bouquets a few days ago, I accidentally happened to put a partly-expanded blossom of Lamarque with two flowers of the old Crimson China; each Rose had its buds and foliage, and I thought nothing could be more lovely. The best kinds of Roses of this section that I have cultivated are those already named, together with Louise de Savoie, Céline Forestier, Maréchal Niel, Safrano for its beautiful buds, Souvenir d'un Ami, and Miss Isabella Grey, a fickle maid in whom no dependance can be placed. Last summer the blossoms of this expanded freely, and were most beautiful, but this season, although producing a profusion of buds, not one good flower has expanded; the whole of those on one strong plant, about two hundred in number, are "green-eyed monsters."

Nothing can be more beautiful than a wall covered with a well-arranged collection of Roses in full bloom; and although wall-space is generally devoted to the choicest and more delicate Tea and Noisette varieties, yet the beauty of Roses of these classes is much enhanced if an occasional deep crimson, such as Charles Lefebvre, Senateur Vaisse, or the more brilliant Souvenir de Charles Montault, or perhaps such sterling pink varieties as a Jules Margottin and a John Hopper be introduced. My own rule in planting is to have every third plant either a crimson or pink.

In concluding these few notes on my favourite flower, permit me again to urge upon all lovers of the Rose the adoption of pyramids in place of standards. I feel quite certain that no person after seeing the effect produced by a symmetrical pyramid will ever plant another standard. Of a few plants of various sizes growing here, and just coming into bloom, I have selected one as a model plant, whose size and shape I shall endeavour to imitate as closely as possible in a number of young plants which I have in training. The plant I allude to is a Jules Margottin; the diameter of its base is 2 feet 8 inches, and it is 3 feet 6 inches high; it has a crop of at least fifty trusses, the principal buds of which are just beginning to expand; its foliage is abundant and thriving, and altogether it is a picture of health and beauty; so when I state that this plant is the offspring of a cutting made by my own hands in August, 1866, I think it will be granted the result obtained is very satisfactory. One or two plants of the same age are larger than this, but they are not so symmetrical; for unless the height of a plant increases in proportion to its diameter, it quickly assumes the appearance of the old-fashioned bush; but a true pyramid presents a happy medium between the squat ungainliness of the bush and the stiff formality of the pillar.—Edward Luckhurst, *Egerton House Gardens, Kent.*

THE REV. W. F. RADCLYFFE'S, OKEFORD FITZPAINE.

It is not given to Sir Joseph Hawley always to win the Derby, to Oxford always to carry off the laurels at Lord's, to the best marksman to pocket the Queen's prize at Wimbledon: so neither is it given to every horticulturist, however distinguished, to record successes. Here is Mr. Pearson telling us at last, what I recollect being severely taken to task for, that orchard houses *pur et simple* (*i.e.*, without heat), are of very little use when seasons are unpropitious. Here are our beautiful Peach trees all brown and burnt, Cherries by the bushel lying underneath our trees, and failure of fruit crop the too-general cry. So instead of having to sing, as I have previously done, in loud tones of our friend's garden, of his Roses and his Peach trees, I must this year as a faithful chronicler state that he has suffered tremendously, and that only his indomitable perseverance and skill could have surmounted the disastrous influences to which he is exposed. He neither possesses the beautiful Rose soil of Hertfordshire or Essex, nor rejoices in the shelter that enables many to

defy the asssults of Boreas. Although his soil is a vast improvement on that of Rushton, yet there is a certain steeliness about it which, in such a season as this has been, tends to make it what farmers call surly; his knowledge of its character and its wants is gradually altering this, but it must take some time before the neglect of former tenants can be repaired. Then, although situated on the slope of the hill, it is just on the brow, so that the winds have full play on it, and I am not sure whether the wall which he has built may not have aggravated the evil, for it affords a point of resistance to the south-west gales, such as a hedge does not, and sends the wind eddying round through the garden. Some idea of the force of the wind may be gathered from the fact that his first wall, a 9-inch one, was blown completely down, and that in protecting his fruit trees he is obliged to use stout canvas, and to fasten it on to the iron rods with copper wire, tarred twine being of no use whatever. The result of all this has been that his Roses have suffered a good deal; the wind has bruised the foliage, and so checked the circulation that a good deal of orange fungus (a thing almost unknown in good Rose soils, I believe), has made its appearance; with this he has no mercy, he cuts out the affected part as soon as it appears, and encourages thereby the growth of new shoots. That the wind is the cause of this is proved from the simple fact that in one corner of his garden which is sheltered the plants are in vigorous and robust health, without a sign of this fungus upon them.

I have before mentioned that Mr. Radclyffe is very shy of new sorts, and he is inclined to wait a couple of years before he introduces them into his garden; while no amount of his old favourites seems to satisfy him. Charles Lefebvre, for instance, meets you in all parts of the garden; grand blooms, 5 inches across. Duc de Cazes is another great favourite for the brilliancy of its tints. John Hopper and Jules Margottin also occupy a conspicuous place; while there are some sorts which we generally think highly of which he does not; for example, he has discarded me from his garden, and is inclined to send my daughter after me; but he has lost his heart to Marie Baumann. He had some blooms of it out, and each time that he went round the garden he returned to these again to take another fond gaze at them. It is without doubt a very beautiful Rose. I should just add, before leaving the Roses, that they were all making vigorous new growth, and would in a short time be full of fresh bloom.

The wall fruit trees were in wonderfully fine condition as far as appearances went, not a blistered leaf was to be seen, not an aphis, I believe, from beginning to end, and their general aspect was an evidence of how carefully they had been tended. Fruit was, as everywhere this year, very scarce; but when we are told that even glazed walls and orchard houses are no protection this season, it is not to be wondered at that the Peaches and Nectarines are few and far between. Since my last visit some standard Cherry trees have been added, and from trees from Sawbridgeworth planted on the 1st of April we had some delicious Early Lyons for dinner.

The Strawberries were looking very fine, but, as everywhere, late. I could hardly believe that the plants which I saw were those which I had seen as runners last year, but it was so; Cockscomb, Dr. Hogg, and Lucas were especially fine. Raspberries also had a heavy crop; while Potatoes were looking remarkably well. We had for dinner Royal Ashleaf, which has been in use since June 5th, and very excellent they were, far better than those I used to grow at Deal; so it must have a trial at Westwell.

I found our good friend hearty and genial as ever, and Stevie as original. My rosarian friends must congratulate me on my ecclesiastical preferment to the dignity of "Dean;" my modesty forbids my assuming the title, however; for alas! it only extends to the gardens at Okeford, where Stevie, hearing me called "D.," had converted it into Dean.—*D., Deal.*

HAND BOUQUETS.—No. 1.

Amateurs are seldom successful in making a good bouquet for the hand, as there is an amount of skill and patience required which few people are willing, if able, to bestow upon it.

The shape, according to the existing law of custom, should be circular, the centre slightly raised, with a gentle slope evenly kept to the edges. Underneath, the stems must be managed so as to be easily held in a lady's hand, and the weight must be light. But to obtain this combination, it is necessary to put the flowers together in an artificial manner.

Before the work is begun, care should be taken to have ready a plentiful supply of wet wool, or dried moss well soaked in water, and two sorts of wire, one as fine as horsehair, and the other rather thick and strong; a bundle of pliable sticks should also be provided. They may about 6 inches long, and the thickness of an ordinary Pelargonium stem. Young twigs from a Thorn bush, dried, and left in water for twenty-four hours before they are used, will answer the purpose very well. The stems of all the flowers are to be cut off, leaving only 1¼ inch to each head. This portion is bound round with a thin strip of wet wool, or a little wet moss, to keep it moist, and to prevent the wire bruising it, and an artificial stalk is then added, placing it close under the calyx of the flower. If the natural stem is soft, or full of sap, one of the prepared sticks will be the best; but if it is woody and tough, strong wire must be used. To bind on the sticks, fine wire is twined round and round from the bottom of the stick to the head of the flower, and crossed back again, which will render the whole stalk flexible. Wire stalks are twined round in the same manner, from the place where the natural stem is joined on.

The easiest way of making up a bouquet is to begin in the centre, and work round it in circles. This does not necessitate a formal arrangement of the flowers, but will materially help in keeping the shape perfect. To each circle and to each flower must be added sufficient wool or moss (the moss is preferable), to prevent the flowers crushing one another, and to enable them to be spread out at the top, while the stalks underneath are compressed into a small compass. Black thread is the best material with which to bind all the flowers together.

If full-blown flowers are used, they will generally require wiring before they are mounted, to keep them from shedding their petals. Roses, Camellias, Oleanders, &c., are treated in this way. A piece of fine wire is inserted through the calyx of the flower on one side, and brought out through the calyx on the other, another thread of wire being crossed over in the same manner; the four ends are then twisted together round the stem. For Pelargoniums and open flowers, a drop of clear gum dropped in the centre the day before they are wanted, will secure their petals, and will not spoil the look of the flowers. A bouquet well managed ought to look fresh for a week at least. Flowers will last longer if placed in water an hour or two before they are used.—L., *Laughton.*

CAULIFLOWER CULTURE.

The earliest crop of the season is produced from seed sown the previous autumn. The good old rule, "sow and plant often," in order to keep up a regular supply in good condition, does not apply to any vegetable with greater propriety than to that now under consideration. It is well to start with a recognition of this rule by sowing twice instead of once in autumn. The first sowing should be made about the middle of August, and the second fourteen days later. In those localities where the checking frosts of autumn set in early, these times may, perhaps, be found late enough, while in other districts I have found the last week of August quite early enough. It will depend entirely on the character of the season which of these two sowings may prove the most desirable from which to choose the main stock of plants for wintering in the best condition as to size and hardiness. Some seasons the earlier sowing may be found too large for wintering in frames, and in such cases the propriety of a second sowing becomes apparent.

Choice should be made of an open airy situation on which to sow the seed. The soil should, if possible, be moderately light, rich, and well pulverised. The seed should be sown thinly, so that the crop of young plants may not become crowded and weakly. If thick, and the season prove wet, mildew is very apt to destroy them. Should the weather and ground be dry, the seed should be steeped in water for twelve hours, and the ground well watered the night before it is sown. This secures a quick and healthy germination without resorting to the undesirable practice of watering the soil after the seed is sown. Many objections might be urged against watering seed beds in hot dry weather, with the view of promoting germination and healthy growth. The action and reaction caused by such a practice in some cases destroys the seed altogether, and the surface of the soil gets consolidated and caked over. By soaking the seeds and bed before sowing, and then shading it from the hot sun, a healthy germination is promoted with very little trouble.

As has already been remarked, the earliest Cauliflowers of the next season are produced from these autumn sowings; and as soon as they are ready to transplant, a border with a

due south and sheltered exposure should be got ready for them. As earliness is the chief object, the soil should not be heavy nor damp. A good dressing of thoroughly-rotted manure should be trenched or dug deeply into it, and every spadeful of the soil should be well pulverised. Hand-glasses should then be placed on the soil thus prepared, at about 2 feet apart one way, and 2½ feet the other. The most stocky and healthy plants that can be selected are planted five in each glass; one in each corner, and one in the centre. Although four or five plants are the number to be brought to maturity in these glasses, no harm results from putting a few more into each with the view of transplanting them in spriog. This, where framing is scarce, is often practised. Care, however, must be taken that they do not get crowded, or injury to the whole will be the result, and the transplanting of the superfluous stock should be done before rapid growth commences. When planted and watered, the light should be put over them, but not closely, and a slight shading afforded for a few hours in the middle of the day if the weather be hot.

After they take with the ground, it must be kept in mind that the more exposed they are in autumn, while they continue to make growth, the better will be their condition to stand the winter, should it be severe, and come away bold and strong in spring; consequently, the tops of the lights should be kept off, except to throw off heavy rains. When the winters are severe, they should be kept closely shut-up while the frost continues, and should be screened from sudden bursts of sunshine. If severe frosts take place after the sun gains sufficient power to thaw them quickly, they are more likely to suffer from sudden alternations of temperature than from continued severe frost. Generally this is all the shelter found necessary for moderate-sized plants that have not been crowded, and rendered tender thereby. In mild weather slugs are the principal devourers that must be looked after and destroyed in the usual way. If the surface of the soil is covered with the siftings of burned earth or charcoal, it is good for the plants, and prevents slugs from harbouring so much. If more have been wintered in the hand-glasses than can be left to come to maturity, they should be removed by the middle of March. If the hand-glasses are of the largest sizes, one plant in each corner and one in the middle may be left, as nice compact early heads are required rather than large ones; but if the glasses are smaller, one in each corner is enough. The surface of the soil should then be well stirred, all dead leaves removed, and a slight earthing-up of a few inches of light rich soil applied. On fine days a free exposure to air must be followed out, shutting them up at night to prevent the soil from losing the heat absorbed by day. They soon make rapid progress, and April adds greatly to their size and strength, and they are generally far a-head of spring-transplanted crops. The glasses should be removed entirely as soon as the plants outgrow them. A top-dressing of well-rotted manure should then be laid over the surface of the ground among and around the plants, and over all a covering of soil. This moulds up the plants and keeps them steady. In performing this operation the corner plants should be pressed away from the centre, to further prevent them from becoming crowded. This moulding-up must be efficiently and firmly done, so that the plants do not get blown about and loosened at the neck by high winds, and a basin should be left all round them to hold manure water. When from dry weather it becomes necessary to help them on with water, let it be a thorough soaking once a-week in preference to smaller quantities more frequently. A mulching should be applied after the first watering, and nothing is better for this than old hotbed manure.

In very cold damp situations it is advisable to pot up in October as many plants as are required for the desired number of glasses, in case, in the event of severe weather, they get crippled. In pots they can be wintered in a cold pit or frame, and turned out into the glasses as established plants, either to make up blanks or replace the whole stock. These will come away much earlier than transplanted plants, and in cold localities it is always advisable to have a few plants in pots to make up blanks under the glasses, if not for anything more important; for if the blanks are made up by transplanting, the plants so introduced do not keep pace with the established plants, and eventually get smothered.

Returning to the stock of young plants in the seed beds, the next consideration is to take steps to winter a stock of plants for planting out in good condition in spring, to succeed those under hand-glasses. The means to this end are to a great extent regulated by the climate of different parts of the country. Some localities are so favoured with climate that the Cauliflowers can be planted out in quarters like Cabbages, and generally stand the winter so managed. In others less mild it is necessary to prick them off under the shelter of a wall. In the majority of cases it is wise not to trust them without some more substantial means of protection, and it becomes necessary to put a quantity into temporary pits, with some means of covering them up in severe frosts, and still better are they under glass in cold frames and pits. For this purpose the latest sowing recommended generally supplies the most suitable plants, the earliest being generally too large, and not in such a good condition to stand the winter, and more likely to button in spring than less plants. The middle of October is a good time to transplant them into frames, which should stand dry and well exposed. Any moderately rich soil, such as common light garden soil, answers very well. The most healthy, stubby, and short-necked plants must be chosen, and planted in rows 4 inches apart each way. They may stand wider if space be plentiful; certainly not closer if fine plants are to be produced.

All the autumn and winter they must be freely exposed to light and air in mild weather, by pulling off the lights every morning and tilting them well up at night. Rain must be kept from them on all occasions, as a superabundance of moisture makes them grow too much, and more liable to suffer from frost. All decaying leaves must be removed when they appear, the surface of the soil kept stirred, and if some charred soil is strewn amongst them, it keeps the surface of the soil from becoming slimy and caked. In dull damp weather, when it becomes necessary to cover them up from severe frosts, it must be borne in mind that they are more likely to be killed by a sudden thaw than by a smart bite of frost. Therefore they should be kept covered up from light after the surface of the soil and the plants have become frozen, and not uncovered till they are completely thawed again; and then the covering should be removed, and light and air admitted by degrees. Mice and slugs are the enemies that are to be guarded against, for if allowed their own way they soon spoil a lot of plants—the former by eating the hearts out of them, and the latter by eating the stems below the leaves.

Looking at these Cauliflower plants that have been wintered in frames in cold localities, the next consideration is how to manage them so that they shall succeed those in hand-glasses in a south border. If transplanted into the open borders or quarters in March they receive a considerable check, even when lifted with balls and carefully planted, and are likely to get checked severely by frosts and cutting winds before they take hold of the ground, so that the earliest of them has little chance of being ready by the time the latest under the glasses are cut. To gain the object in view I know of no better plan than that of potting them up out of the frames the first week in February, and establishing them in pots in kindly quarters under glass, for a time at least. In this way they receive a comparatively slight check, and fine strong plants can be turned out with good balls by the end of March. They are also better able to contend with sun and wind, and are much earlier than those transplanted from the frames without being potted.

Four-inch pots are large enough for the strongest plants, while the smallest may have a size less. The soil should be rich, such as old Melon-bed loam and well-rotted leaf mould in equal proportions, with a slight sprinkling of fine bone dust and sand. A single crock in each pot is enough. They should be potted firmly, and room left in the pot to hold plenty of water when they require it. In lifting the plants from the frame, the object should be more to get the roots as entire as possible than to preserve a ball of earth to them. None of them should be discarded on account of their being small, if healthy; for the greater the variety in size, the longer and more regular the succession a given number of plants will afford. After being potted and well watered, they should be returned to the pit or frame and kept close for a time till they begin to take with the pots. Then they must be inured to full exposure, but always protected from frost, although in all other respects grown in a hard manner. The end of March, or, should the weather be cold, the beginning of April, is soon enough to plant them out, unless in more favoured localities. The ground intended for them should be trenched and well manured with thoroughly rotted dung. Some of the most forward plants should be planted in a border with a south exposure, on a rather light rich soil. Here they will succeed those in the glasses. The rest may be planted in the open quarters, where the earliest of them will follow up those in the early border. In performing

the operation of planting, circumstances must determine the exact way in which it is best performed. On heavy cold soils, upon which it is advisable to tread as little as possible after it is trenched, I have frequently left the trenching till the time of planting, and put the plants out as the trenching proceeded. Having a heap of light rich soil in readiness beforehand, a couple of spadefuls of it were put round the ball of each plant to give it a start. This may perhaps be considered a preferable way of doing the work on such soils, to that of first trenching the ground and then throwing out pits for the light soil, inasmuch as all treading of the ground is avoided. In free fine soils there is nothing necessary beyond setting the line and planting the plant-balls entire in the natural ground. They should always be planted at such a depth that the soil reaches up to the first leaves of the plants. Two feet by two will be plenty of room for producing moderate-sized heads. If large ones for the hall be an object, some of them may be planted wider; but for all practical purposes, 2 feet by 2 will be enough.

In heavy soils, slugs are a great pest if the spring proves wet, and a few plants should be kept in reserve to make up blanks. Cinder ashes, sand, and various other things which slugs do not relish, may be spread over the soil round each plant to help to check their work; but to catch them and kill them is probably the best way of saving the plants.

Where the ground is exposed to the north and east, it is a good plan to stick in a stiff sprig or two of evergreen on those sides of each plant, to protect them from cutting winds, which often prevail at that season. As they progress in growth they must be attended to by drawing a little soil to them, to keep them from becoming loose at the neck; and, if dry, a good watering should be given before they are moulded up.

To make sure of succession, I have frequently planted some of these potted plants on a north border, and found them come in very handy, especially when the season proved hot and dry.

About the middle of February, a sowing should be made in heat to succeed the autumn-sown plants. The temperature should be from 55° to 60° till they come up; then they should be removed to a dry cold pit or frame and placed near to the glass, and when about 2 inches in height pricked off into rich soil in a cold frame. Here they are completely protected from any frost that may occur, but otherwise hardily reared. These make fine strong plants by May, ready to be planted out. They should be lifted with good balls, and carefully planted and attended to with water should the weather be dry, till they get a good hold of the soil. For summer plantations a good, holding, well-manured and worked, loamy soil is the best; and in dry sandy soils it is most difficult to prevent a great bulk of the crop from buttoning if the season prove dry.

To succeed this sowing made in heat, I have usually found it desirable to make another under hand-glasses on a wall border about the middle of March, and afterwards at intervals of three weeks, up to the middle of June. The plants should always be pricked-out into beds of rich soil as soon as they can be conveniently handled, and before they become drawn in the seed bed. They suffer less from the transplanting when young than if it be delayed till they form deeper tap-roots. From the time they are pricked-out till they are established in the garden quarters, they must never be allowed to get a check from want of water, for if once they become "blue," there is little chance of their doing well afterwards. This frequent sowing, and as frequent planting, is the only way to be sure of keeping up a constant succession of nice heads, fit to present in the dining-room. It is not necessary to make large plantations, except in the case of the last for the season, from which a winter supply is expected at least up to Christmas. The last should, therefore, be the largest of the plantings, as it comes in at a cool season, when the heads stand long in good condition, and can be stored away to keep in quantities.

The time for making the last sowing and planting will require always to be determined by the climate of different localities. Here the latest may be delayed till August, but in most places in Scotland it will require to be planted somewhat earlier. By the time the latest is consumed, it is succeeded by that excellent variety of Broccoli, known by the name of Snow's Winter Broccoli, easier known by name than by experience, although I always manage to obtain it true.

In light dry soils I have found it a good plan, to make sure of good Cauliflower, in very dry seasons, to plant a few rows among rows of Peas, kept rather wider apart than is common. The Peas afford shade to the plants, and I have seen them do well when they buttoned extensively in open quarters. The later, and particularly the latest, should always be in well-exposed situations. It is a practice in England to take two crops of Cauliflowers from the same ground. When those planted in April in an open quarter are cut, which is generally by the 1st of July, I have frequently trenched or dug the ground and planted again, and had two good crops in the same place. The latest planting has generally succeeded the earliest sowing of Kidney Beans and second-early Potatoes.

In keeping up a constant supply of this vegetable, one of the most necessary auxiliaries is a cool, dry, dark cellar, with its floor, or part of it at least, covered 6 inches deep with moist sand. When Cauliflower comes in quicker than it can be used, it should be cut—when scarcely so big as is desired for table—with half a foot of the stem attached, the leaves cut off square with the surface of the flower, and then stuck into the sand in the cool dark place. In this way they keep crisp for weeks; and for saving the late crop when frost sets in, it is a plan much preferable to that of hanging them up in sheds with the leaves and stumps attached; and late in the season particularly, it is surprising how long they keep in good condition.

As to the best kinds of Cauliflower for different seasons, I think, if I had to confine myself to one sort, I would choose the Walcheren. For a summer variety probably the New Frogmore is preferable, inasmuch as it stands longer without opening or running than the Walcheren. These two, with the Early London, are the varieties I confine myself to. About fifteen or perhaps more years ago, there was a sort grown about London as Myatt's Cauliflower, which to my mind was the best I ever saw, but have not seen it true for a good many years.—D. Thomson (*The Gardener.*)

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The twenty-sixth anniversary dinner of this Institution took place at the London Tavern, Bishopsgate Street, on the 23rd of June. The Duke of Argyll, K.T., took the chair, and was supported by G. F. Wilson, Esq., F.R.S.; J. Bateman, Esq., F.R.S.; Professor Owen, A. Helps, Esq., R. Wrench, Esq., and J. J. Mechi, Esq. Among the company, which was more than usually numerous, were Mr. John Lee, Mr. Charles Lee, Mr. Williams, Mr. Carmichael, of Sandringham Gardens, Mr. Eyles, Mr. Earley, Mr. Forsyth, Mr. Holmes, Mr. Judd, Mr. Marnock, and Mr. Taylor.

The Chairman, in proposing the health of Her Majesty, dwelt at some length on the interest which she takes in plants, especially in those which flourish on alpine summits, where Nature, as if to compensate for the fewness of her gifts, had given the flowers such exquisite delicacy and beauty. And he related that only three weeks ago Her Majesty had asked him if he remembered the name of a flower which she had brought home in one of her Highland excursions, and he was sorry to say he did not, but Her Majesty showed him the whole collection of dried specimens of the plants of Braemar; he examined them, and he believed he was correct in stating that the plant was Azalea procumbens. He mentioned this to show the interest Her Majesty takes in botany.

After the other loyal and patriotic toasts, the Chairman, in proposing the toast of the evening, "Prosperity and Success to the Gardeners' Royal Benevolent Institution," said he well knew there were present those who were better acquainted with its objects and operation than himself, but the object was to provide retiring allowances or pensions to gardeners, market gardeners, nurserymen, and their widows, to make them comfortable in their old age. He rejoiced to say that it was not one of the conditions attached to the pension that the recipients should live immured in buildings, but they could live with their friends, and in this way a comparatively small sum sufficed to make them comfortable. The rule by which preference is given to those who have subscribed for fifteen years so long as any such are candidates for election, was commended as being very judicious. And then, referring to the mode in which the funds are raised, it was remarked that they are partly derived from gardeners themselves, but still more largely from others; but if all the working gardeners in this country were to subscribe, the funds would be more than sufficient. Nothing had surprised the public more than the large sums of money which had been subscribed by trades' societies throughout the country, showing what could be done by a long pull, a strong pull, and a pull all together. But bricklayers, carpenters, and other trades were chiefly gathered together in the great centres of industry, while gardeners have been under great disadvantages in this respect from shunning these centres, and especially the chimnies. From being thus scattered in remote districts, gardeners had some difficulty in providing for themselves funds for their maintenance in sickness and old age; at the same time he would earnestly recommend the adoption of some more ample system of organisation for the purpose. Referring then to the market gardeners, he knew nothing more wonderful than how London's 3,000,000 of population were provided with fruit and vegetables—a population exceeding that of many of the most powerful states of ancient history. One had only to walk out on a hot summer's evening, and he

would see hundreds of waggons coming into that greatest of all gardens in the world—Covent Garden; and even Penzance sent to it early Broccoli and early Potatoes, and the tropics their fruits. No country in the world was supplied with such fine fruit as this, and he even believed that the table of the Emperor of the French was supplied with it from this country. So with flowers. He, the Chairman, had had no wish so great as to see the flowers in the tropics—he supposed he never should, but he was somewhat reconciled to that on reading the remarks in Mr. Wallace's "Malay Archipelago." Individually the flowers of the tropics were magnificent; but as regards colouring the landscape, they were not so effective as the flowers of the temperate regions—the Heather on our mountains, the Hyacinths of our woods, and the flowers of our pastures. Besides the flowers of our own temperature, those of other regions had been brought together and cultivated successfully. These were great triumphs of skill, great triumphs of industry, and the gardening of this country was one of the greatest triumphs of civilisation. After referring to the refining influence of flowers, the Chairman concluded by calling on his hearers to cultivate the gardener's art, and to show their interest in that class of men to whom society owes so much.

Among the other toasts were "Physiological Science," coupled with the name of Professor Owen; "The Chairman;" "The Horticultural and Botanical Societies," responded to by Mr. Bateman; "The Treasurer," responded to by Mr. Wrench; "The Secretary;" and "The Nursery and Seed Trade," coupled with the names of Mr. Veitch and Mr. Hurst, the latter of whom returned thanks.

As usual there was a tastefully arranged group of plants at the back of the chair, also plants and cut flowers on the tables and in other parts of the room. These were contributed by Messrs. Veitch, Lee, Williams, and Turner; while fruit for the dessert was sent from the gardens of His Royal Highness the Prince of Wales, Baron Rothschild, and Mrs. Dixon, of Stanstead Park.

The list of donations amounted to nearly £500.

ROYAL HORTICULTURAL SOCIETY.

Rose Show, *June* 29*th*.—More favoured by weather than its predecessor at the Crystal Palace, this exhibition, with which is incorporated the National Rose Show, was eminently successful in the number of stands exhibited, the quality of the flowers, and in the numbers who flocked to this the great levée of the queen of flowers. There were, as there always are, a good many defective blooms; there were, as there always are, a good many stands which might have been set up to much better advantage; but on the whole there was an absence of coarseness, a refinement of form, and a beauty and freshness of colour, which gave it a peculiar charm. Larger blooms of many of the kinds have been shown, and not a few had changed colour under the influence of the hot sun of the past week, but taken all in all this was the Rose show of the season—a season hitherto in some respects as remarkable as that of 1868.

In Class I, seventy-two single trusses, Messrs. Paul & Son were first with a splendid collection, in which we remarked as fine—La Ville de St. Denis, Exposition de Brie, Clotilde, Maréchal Vaillant, Marie Baumann, very large and fine, but showing the eye a little; Pierre Notting, Dr. Andry, Marguerite de St. Amand, Le Rhone, Comtesse de Chabrillant, Antoine Ducher, Baroness Rothschild, Charles Lefebvre, Alfred Colomb, Victor Verdier, Camille Bernardin, Xavier Olibo, Mdlle. Marie Rady, Duchesse de Caylus, Pitord, Maréchal Niel, Senateur Vaisse, Leopold Premier, Madame Victor Verdier, Madame Thérèse Levet, Beauty of Waltham, Felix Genero, Devienne Lamy, new; Triomphe de Rennes, Maurice Bernardin, Centifolia Rosea, François Treyve, extremely brilliant; Thorin, Jean Cherpin, and Madame Willermoz. Mr. Turner came second, with a lot but little inferior, containing beautiful examples of Souvenir de Monsieur Boll, Horace Vernet, Rubens, Felix Genero, Souvenir de Comte Cavour, Général Jacqueminot, Abel Grand, Napoleon III., darkly shaded; Marie Baumann, Prince Camille de Rohan, Rev. H. Dombrain, Narcisse, Madame Victor Verdier, Marguerite de St. Amand, John Hopper, Gloire de Dijon, Maurice Bernardin, Duchesse de Caylus, Madame Charles Wood, and Triomphe de Caen. Mr. Keynes, of Salisbury, who was third, had fine blooms of Duchesse d'Aoste, bright rose; Marguerite de St. Amand, Victor Verdier, not large but beautifully fresh; Marie Baumann, Alba mutabilis, Souvenir de Malmaison, Madame Vidot, Coquette des Alpes, white; Dr. Andry, Duc de Rohan, Lord Macaulay, Elie Morel, Abel Grand, and good examples of several others. The fourth prize went to Messrs. Francis, of Hertford, for stands which included good trusses of several of the varieties already named.

Class 2 was for three trusses of forty-eight varieties. In this the first prize went to Messrs. Paul & Son for magnificent specimens of Leopold Hausburg, Duchesse de Caylus, Madame Clemence Joigneaux, Duke of Edinburgh, Madame Fillion, Marguerite de St. Amand, Souvenir d'Elise, Senateur Vaisse, Mdlle. Thérèse Levet, Horace Vernet, Xavier Olibo, Beauty of Waltham, Exposition de Brie, Maréchal Niel, Comtesse de Chabrillant, Antoine Ducher, Charles Lefebvre, Camille Bernardin, Abel Grand, Paul Verdier, Triomphe de Caen, Maurice Bernardin, Marie Baumann, John Hopper, Alfred Colomb, Madame Caillat, and Prince de Portia. To Mr. Keynes the second prize was awarded for stands containing fine trusses, among which the following were conspicuous:—Louise de Savoie, Marguerite de St. Amand, Exposition de Brie, Madame Sertot, Duchesse d'Aoste, Madame Vidot, Victor Verdier, Madame Canrobert, John Hopper, Charles Lefebvre, and Paul Verdier.

The third prize went to Mr. C. Turner, who had fine examples of Exposition de Brie, Charles Lefebvre, Beauty of Waltham, Souvenir de Comte Cavour, Gloire de Dijon, John Hopper, Madame Victor Verdier, Marie Baumann, Général Jacqueminot, Alfred Colomb, Duke of Wellington, Madame Clemence Joigneaux, Vicomte de Cazes, and Maurice Bernardin. The fourth prize was taken by Messrs. Francis, John Hopper, Charles Lefebvre, Gloire de Dijon, Jules Margottin, Colonel de Rougemont, and Mdlle. Bonnaire, were the most conspicuous in this collection.

The next class was for three trusses of twenty-four kinds, and though not so effective, was everything that could be desired as regards quality. Messrs. Paul & Son were again successful in taking the first position with Marguerite de St. Amand, Baroness Rothschild, John Hopper, brilliant; Beauty of Waltham, Maurice Bernardin, splendid; Senateur Vaisse, Madame Noman, Duke of Edinburgh, very fine, and rich in colour; Marie Baumann, Madame Rivers, Abel Grand, La France, Lord Clyde, and Mdlle. Thérèse Levet. Mr. Turner came second with Madame C. Joigneaux, John Hopper, Leopold Hausburg, Victor Verdier, Madame Victor Verdier, Paul Verdier, Impératrice Eugénie, Marguerite de St. Amand, Felix Genero, Marie Baumann, and Exposition de Brie, besides others likewise very good. The third prize went to Mr. Keynes, who had very good examples of Victor Verdier, Marie Baumann, Duchesse d'Aoste, Madame Vidot, Dr. Andry, Madame Beanverger, Alfred Colomb, John Hopper, Madame Rothschild, Marguerite de St. Amand, Beauty of Waltham, and Comtesse de Chabrillant. Mr. Cranston, King's Acre, Hereford, was fourth with, among others, very large trusses of Marguerite de St. Amand, Felix Genero, Jules Margottin, and Monsieur Noman. Mr. Fraser, of Lea Bridge, sent Le Rhone, Exposition de Brie, John Hopper, and Leopold Hausburg, very beautiful both in form and colour.

In the nurserymen's class for single trusses of twenty-four varieties, Mr. Cant was first with splendid specimens of Marie Baumann, Baronesse de Rothschild, Madame Willermoz, Maréchal Niel, Maréchal Vaillant, Céline Forestier, Madame Bravy, Duchesse de Caylus, Souvenir d'un Ami, Xavier Olibo, and Marguerite de St. Amand. Mr. Keynes was second with Viceroy, a new purplish kind with a brighter centre, Felix Genero, Abel Grand, John Hopper, and several others equally good. Mr. Turner was third with a very good stand, and Mr. Cranston fourth.

In the amateurs' class for forty-eight varieties there were several excellent exhibitions, particularly that from Mr. Chard, gardener to Sir F. Bathurst, Bart., Clarendon Park, Salisbury, who gained the first prize. In this were excellent trusses of Marie Baumann, Mdlle. Bonnaire, Maréchal Niel, Madame Boutin, Madame Moreau, Duc de Rohan, Fisher Holmes, Duchesse de Caylus, John Hopper, Maréchal Vaillant, Pierre Notting, Exposition de Brie, Maurice Bernardin, Souvenir d'un Ami, and Céline Forestier. The second prize went to Mr. A. Moffat, gardener to the Earl of Rosslyn, Easton Lodge, Dunmow, who had fine specimens of Maurice Bernardin, Maréchal Niel, John Hopper, Madame V. Verdier, François Lacharme, Moiret, and Rubens. Mr. Ingle, gardener to Mrs. Round, Birch Hall, Colchester, was third with fine trusses of Exposition de Brie, Rubens, Madame Caillat, Jules Margottin, Maréchal Niel, Maréchal Vaillant, La Brillante, Senateur Vaisse, La France, and Jules Margottin. Mr. Exell, gardener to J. Hollingworth, Esq., Maidstone, was fourth, who, as well as Mr. Laxton, of Stamford, had in his stands excellent blooms of Maréchal Niel, Alfred Colomb, Madame Victor Verdier, Marie Baumann, Senateur Vaisse, Victor Verdier, and La France. Mr. Johnson, of Uxbridge, would have been second if he had not had two blooms under the name of La Brillante. Of his others several were very bright-coloured and fine, especially Madame Victor Verdier, Senateur Vaisse, Madame Caillat, Mdlle. Thérèse Levet, Narcisse, Victor Verdier, and Duc de Rohan.

In Class 6, for thirty-six varieties, there were several very fine exhibitions. The first honours went to Mr. Chard, who had admirable blooms of Olivier Delhomme, Thorin, Duchesse de Caylus, Dr. Andry, Xavier Olibo, Maurice Bernardin, Narcisse, Maréchal Vaillant, Lord Macaulay, Madame Knorr, Comtesse de Chabrillant, Madame Boutin, John Hopper, Madame Charles Crapelet, Rubens, and Maréchal Vaillant. Mr. Ingle, gardener to Mrs. Round, was second with Charles Lefebvre, Charles Lawson, Madame Domage, Jules Margottin, Lord Raglan, Maréchal Niel, &c.; and Mr. Stoddart, gardener to J. G. Rebow, Esq., M.P., Wivenhoe Park, third; Mr. A. Moffat being fourth, and an extra prize was awarded to Dr. Cooper, of Slough.

The class for twenty-four single trusses brought very good exhibitions from Mr. Cant, Myland Lodge, Colchester, and Mr. Stoddard, who were first and second. Among the kinds shown were excellent trusses of Fisher Holmes, Marie Baumann, Merechal Niel, Comtesse de Chabrillant, Dr. Andry, La Ville de St. Denis, Souvenir de Charles Montault, Maréchal Vaillant, John Hopper, Victor Verdier, Mdlle. Bonnaire, Jules Margottin, and Charles Margottin. In Mr. Cant's collection every bloom was good. Mr. Exell was third; Mr. Stretton, Manningford, fourth; and an extra prize was awarded to Mr. Soder, gardener to O. Hanbury, Esq.

For twelve trusses Mr. Cant was again first with fine examples of Pauline Lansezeur, John Hopper, La Ville de St. Denis, Cloth of Gold, Marie Baumann, Maréchal Niel, George Prince, Charles Le-

febvre, and Madame Clemence Joigneaux. Mr. Soder was second, Mr. Marsh and Mr. Quinnell third, and Mr. Stretton fourth.

For eighteen new Roses of 1867 or 1868, which will be reported on by "D., *Deal*," the prizes went to Messrs. Paul & Son, Mr. Keynes, Mr. Cant, and Mr. Turner, in the order named. Mr. Cant, of Colchester, was first for twelve trusses of any new Rose of 1867 with La France, Mr. Keynes second with Elie Morel. The first prize for the best six trusses of any new Rose of 1868 was awarded to Messrs. Paul and Son for Duke of Edinburgh, the beauty and brilliancy of which were noticed last week in connection with the Crystal Palace Show.

Yellow Roses, however charming in themselves, when unmixed with other brighter-coloured varieties exhibit a great amount of sameness. The first place for the best twelve was taken by Mr. Cant with Vicomtesse de Cazes, Gloire de Dijon, Triomphe de Rennes, Maréchal Niel, Climbing Devoniensis, and Céline Forestier, all of which were in fine condition. Mr. Stoddart came second with Maréchal Niel and Triomphe de Rennes, both finely coloured, Solfaterre, Gloire de Dijon, and Madame Falcot; Mr. Keynes being third, and Mr. Chard fourth. In the class for the best exhibition of yellow Roses of one or more varieties, Mr. Cant was first with a splendid group of Maréchal Niel, Céline Forestier, very fine, Triomphe de Rennes, Madame Falcot, and Safrano. Mr. Stoddart was second, and Mr. Chard third.

The classes for twelve Tea-scented and Noisette Roses drew together several very pretty collections. Mr. Cant took the lead among nurserymen with beautiful examples of Madame Bravy, Maréchal Niel, Niphetos, Souvenir d'un Ami, Rubens, Gloire de Dijon, Madame Willermoz, Céline Forestier, Triomphe de Rennes, and Marquise de Foucault. Messrs. Paul & Son were second with excellent specimens of several of the above, Reine du Portugal, new, and Lamarque. Mr. Keynes, who was third, had Madame Sertot, very large and fine, Moiret, Sombrieul, and others already named. In the amateur's class Mr. Ingle, who was first, had fine trusses of Madame Bravy, Gloire de Bordeaux, Maréchal Niel, Madame Margottin, Gloire de Dijon, Devoniensis, Rubens, Bougère, Souvenir d'un Ami, and Sonvenir d'Elise. Mr. W. Cant, of Myland Lodge, Colchester, who was second, had, besides fine examples of Maréchal Niel and Adam, very good ones of Souvenir d'un Ami, Pauline Labonté, Devoniensis, Gloire de Dijon, Triomphe de Rennes, Madame Bravy, Céline Forestier, and Cloth of Gold. Mr. Stoddard was an excellent third.

In the open class for single blooms of twelve varieties, the first prize went to Mr. Cant, nurserymen, Colchester, for a remarkably fine stand containing Souvenir d'un Ami, Colonel de Rougemont, Marie Baumann, Maréchal Niel, beautifully coloured; Duc de Wellington, Marguerite de St. Amand, La Ville de St. Denis, Madame Bravy, Le Rhone, and Gloire de Vitry. Mr. J. Keynes, who was second, had Souvenir d'on Ami, Monsieor Noman, Soovenir de Malmaison, Pitord, Elie Morel, Victor Verdier, Marie Baumann, very bright and beautiful; Louise de Savoie, Marguerite de St. Amand, and Devoniensis. The third-prize lot came from Mr. Turner, and contained Caroline Hole, a seedling with, as shown, a salmon-rose centre and purplish pink towards the outside; Antoine Ducher, Rubens, Monsieur Noman, Gloire de Dijon, and others less noteworthy. Mr. J. Cranston, who was fourth, had Marquise de Mortemart, pretty pale rose.

Prizes were offered for vases or baskets of Roses, but brought no novelty in design. Mr. Soder was first with a March stand with Ferns and Roses at the base, Japanese Honeysuckle twining up the stem, and Roses, Pteris, and Maidenhair Fern in the top dish. Mr. Chard was second with a similar stand, having Cissus discolor twined up the stem, and ornamental grasses freely introduced.

Prizes were also offered for six bouquets of distinct kinds, five trusses of each. Mr. Cant, nurseryman, of Colchester, was first with beautiful examples of Le Rhone, Céline Forestier, Marie Baumann, Souvenir d'Elise, Charles Lefebvre, and Margnerite de St. Amand. These were set up in Etruscan terra-cotta vases, and surrounded with bouquet paper. Messrs. Paul & Son were second with John Hopper, Dr. Andry, Marguerite de St. Amand, Senateur Vaisse, Céline Forestier, and Charles Lefebvre, set up in Hyacinth-glasses. Mr. Chard was third.

Of Moss Roses only two stands were shown, the exhibitors being Messrs. Paul & Son and Mr. Cranston. There were in these trusses of Baronne de Wassenner, the Common, which still maintains its place as one of the best, Angélique Quetier, Celina, Laneii, &c.

Of Roses in 8-inch pots, the admirably-grown plants from Messrs. Paul & Son were first. The following were especially remarkable for the profusion of bloom—viz., Duchesse de Caylus, Souvenir de Malmaison, Charles Lefebvre, Dr. Andry, Louise Margottin, Lord Clyde, Senateur Vaisse, Général Jacqueminot, Triomphe de Soissons, Leopold Hausburg, and Louise Odier. Mr. Turner, who was second, had also most excellent plants, Maurice Bernardin, John Keynes, Maréchal Vaillant, Duchesse de Caylus, and Madame Alfred de Rougemont were particularly worthy of mention. Messrs. Francis, were third. The first prize for new Roses in pots went to Messrs. Paul & Son.

The miscellaneous subjects were not numerous, Mr. W. Paul sent his new Roses, Prince Leopold and Princess Christian. Phlox Beautiful, and Blue Bell and other Pelargoniums, including Waltham Bride, with white-variegated leaves and white flowers. Mr. Postans, of Brentwood, sent fifty splendid blooms of John Hopper Rose; Mr. Hooper, Widcombe Hill, Bath, Pinks, both show and bedding, Picotees, and Pansies; Messrs. F. & A. Smith, Tricolor and Bicolor Pelargoniums; Mr. Mann, Brentwood, flowering and Tricolor-leaved Zonal Pelargeniums; Mr. Turner, Blue Gown Cucumber; and Monsieur Baulant his beautiful artificial flowers and plants noticed in the report of the Floral Committee of June 15th.

ROYAL BOTANIC SOCIETY'S SHOW.

This Society's last Show for the season commenced yesterday, and will be continued this day. For this time of year there is a great amount of freshness and beauty in the plants exhibited, which, as usual, are very numerous, but fruit forms its distinctive feature. Mr. Miller, gardener to Lord Craven, Combe Abbey, carries off the first prize for the best collection with two handsome Queen Pine Apples, splendid bunches of Black Hamburgh Grapes, Foster's White Seedling Grapes, two Melons, Royal George Peaches, very large and fine, Elruge Nectarines, and British Queen Strawberries. Mr. Bannerman, gardener to Lord Bagot, Mr. Johnson, Mr. Miles, Mr. Simpson, of Wortley, and Mr. Carmichael, gardener to the Prince of Wales, have also good collections. The last-named exhibitor has in his collection two fine Melons, named respectively the Prince and Princess of Wales, the former green-fleshed, the latter scarlet-fleshed, and large bunches of Black Hamburgh Grapes, which had become much rubbed in carriage. Mr. Douglas, Loxford Hall Gardens, stands first for Black Hamburgh Grapes, with beautifully coloured compact bunches; and Mr. Bannerman and Mr. Henderson, Colcorton, send fine bunches of the same kind. The best Muscats come from Messrs. Standish & Co. Mr. Bannerman and Mr. Goldsmith send very good Black Prince; Mr. Cole, Ealing Park, and Mr. Douglas, Buckland Sweetwater, the bunches from the former being especially good; Messrs. Standish and Co. baskets of the Royal Ascot, finely coloured, and Vines of the same Grape trained with a flat head, bearing excellent bunches. Among baskets of Grapes, however, the lead in Black Hamburghs is taken by Mr. Miller, in Muscats by Mr. Davis, of Fryern Barnet. Mr. Henderson also sends Black Mammoth Grape, an Australian seedling, with very large oval berries. Peaches and Nectarines on the whole are rather small. Mr. Jack, gardener to the Duke of Cleveland, Battle Abbey, has Bellegarde, very large, and Mr. Miller, Grosse Mignonne, very fine. Pine Apples are few in number, and not remarkable for size. Mr. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, has a fine Prickly Cayenne, of 5¼ lbs., an excellent Queen of 4½ lbs.; and Mr. Bailey, of Shardeloes, a large Providence and a fine Queen.

Orchids from Messrs. Williams, Parker, Hill, and Wheeler are remarkably good, whilst the collection of eight from Mr. Archer, gardener to A. Turner, Esq., Leicester, is worthy of all praise. In this there is a fine mass of Cypripedium barbatum superbum, Odontoglossum Pescatorei, Phalænopsis grandiflora, and Saccolabium guttatum with ten spikes, all of which plants are splendid specimens. Mr. Wilson, gardener to W. Marshall, Esq., who is second in the same class, sends Cypripedium Stonei with six flowers, four of which are on one spike, and a beautiful specimen of Dendrochilum filiforme. Mr. Lawrence, gardener to the Bishop of Winchester, has a plant of Trichopilia turialvæ, with a regular ring of blossoms, a beautiful specimen of this recent introduction. New plants are exhibited in multitudes by Messrs. Veitch, Bull, Williams, and Henderson of Wellington Road and Pine Apple Place. Of cut Roses, too, there is a large exhibition, furnished by Messrs. Paul & Son, Mitchell, Turner, Fraser, Hill, Exell, and others; and a magnificent display of Roses in pots from Messrs. Paul & Son.

ASPECTS OF SPRING GARDENING.—No. 3.

My third aspect of spring gardening is drawn from a source much further northward than I have as yet taken your readers—away from the "precincts of the silver sea," and the softer climate of the southern shores of England—to a district different in almost every respect from that I have previously drawn my supplies from, save this, that there, as in the south, spring gardening is well carried out; but in this instance to such an extent as to astonish, and with such excellent results as to delight, those who yearly search the country through for illustrations of this somewhat modern feature of gardening.

The scene is laid at the gardens of the Holte Hotel, Lower Grounds, Aston, Birmingham. The proprietor of these grounds is a spirited and genial man, wonderful in resource, and prompt and decided in action, by name Mr. H. G. Quilter. Some few years ago (having, as the manager of the Aston Park Estate under the corporation of Birmingham, obtained some insight into the recreative requirements of a great industrial community), he became the proprietor of about 36 acres of the Lower Grounds of the Aston Park Estate, with the idea of making it a place of popular resort and recreation. His design was to provide for the masses of population who inhabit Birmingham, sources of recreation that while they should be broadly applicable to the varying tastes of an enormous community, should also exclude every coarse feature which would be likely to wound the sensibilities of the most fastidious social reformer. This, by dint of untiring energy, he has established in one of the immediate suburbs of Birmingham, scarcely more than two miles

distant from the busy centre of this vast iron metropolis: and by means of lakes for boating and fishing (one being exclusively retained as an ornamental water for various species of waterfowl, &c.); by providing archery, cricket, and croquet grounds, and extensive bowling greens; by high-class concerts, by private theatricals and dancing under the strictest regulations; by the daily attendance of a first-class band of music; and lastly, and not least in the category of attractions, by the introduction on an extensive scale of the best modern features of spring, summer, and subtropical gardening, combined with shady walks under umbrageous trees, grass plats, specimen ornamental trees, clumps of Rhododendrons, &c.—Mr. Quilter has become related to Birmingham in such a beneficent social bond as to secure the full approbation of the lover of his kind, and the admiration of the practical horticulturist.

The whole grounds are irregularly pyriform in shape, the dwelling-house forming the apex, the large boating lake the reverse of the outline. While they may be roughly divided so, next the dwelling-house are the grass lawn and ornamental water; then a walled-in garden of four acres used as an extensive flower garden, on the left of which are the archery, cricket, and other grounds. Beyond this come the promenade and the boating lake. A broad gravel walk 300 yards in length leads down to the walled-in garden and recreation grounds. On the right is a large stretch of grass plat, with the ornamental water parallel with it; on the left a verge of grass lawn, with a broad flower and shrubbery border skirting the Harborne Road. Right and left of this broad walk there is a line of oblong and circular beds alternately, the one filled with hardy evergreen shrubs, the other with spring flowers, such as Tulips, Iberis sempervirens, and such like. The grass plat on the right falls with a gentle declivity towards the lake, and about it are studded various specimen Coniferæ, while a line of golden Thuja aurea skirts a narrow gravel path running parallel with the lake. The broad flower border in front of the line of shrubbery on the left presented a striking floral spectacle. The flower border proper is about 6 feet in width. Next the shrubbery comes, as a kind of floral background, a line of herbaceous Phloxes alternately with Dahlias; in front of this dwarf Roses and herbaceous Pæonies alternate, leaving a space of about 4 feet to fill in with bedding plants, a sharply angled zigzag line of single and double Tulips, early and late-blooming kinds being mingled together for the purpose of prolonging the effect. The groundwork of this bed was formed of slanting diamonds of Viola cornuta and Cerastium tomentosum, each diamond filling up two angles formed by the line of Tulips. As this border falls gently towards the lower portion of the ground, the visitor appeared to be looking along a broad band of Tulips instead of a zigzag line simply. At the extremity of the broad walk, and on the right of the same, and forming a fine and attractive object when seen from the distance, was a huge raised circular bed about 1 foot from the ground, the pedestal formed of turf banks. From the centre of this circle sprang two baskets, the one appearing to issue from the other. The space round the lower basket gave a circular border 6 feet in width, admitting of nine circular lines of Tulips, the back and the front circles being mixed double and the others mixed single flowers. This was broadly edged with Cerastium tomentosum just coming into bloom. The baskets were formed of pieces of the outside wood and bark of the Fir held together by cables. This basket was filled with Golden Prince early single Tulip and Wallflowers, edged with Stachys lanata. The upper basket was also filled and edged in a similar manner. Between the lake and the enclosed flower garden was a piece of ground which had been prepared as a subtropical garden; while on the other side of this garden, close by the promenade, are other beds to be used for the same purpose. Many other nooks and corners and raised beds, together with rustic baskets, are also utilised. There are also introduced cascades, waterfalls, &c., all of which considerably heighten the effect sought to be produced, and impart a finish to the whole arrangement.

So far I have only touched on what lies outside the area of the great floral display within the enclosed garden. It is that I will now attempt to pourtray, aided by the accompanying plan, though the best my pen can perform would give but an inadequate conception of the splendid effect produced here. The walled-in garden is nearly four acres in extent, and is laid out in the form of a huge Maltese cross, the arms of the cross being represented by a broad raised border on either side, with a broad gravel walk between. The centre of this garden, which forms the body of the cross, is of a circular shape, and the exterior border on the plan gives one-half of the raised border just referred to. The scale being 15 feet to 1 inch, some idea of the extent of the central garden alone can be obtained. The four openings in the outer border represent the main walks forming the arms of the cross, running the length and breadth of the garden from east to west and from north to south, halfway between the wall enclosing the garden and the central garden as given in the plan. Each arm of the cross expands in order to admit a large oval bed, on either side of which runs the broad gravel walk. Under the four walls forming the boundary of the garden there are broad borders, and at the angles huge banks of Hollies, Rhododendrons, &c., with backgrounds of Coniferæ. A broad gravel walk divides these borders from the square occupied by the cross and the angles of grass plats which fill up the outline of the garden. About these angular grass plats are studded ornamental trees and shrubs, rustic baskets, and various flower beds. The raised border on either side of the central gravel walks thus faces both ways—to the gravel walks, and also to the grass plats in the angles of the garden. A Yew hedge about 4 feet in height occupies the apex of the raised border throughout, with standard Roses at short intervals in a line with the Yews. When the central garden is reached a background to the Yew hedge is introduced in the form of a galvanised iron fence in perpendicular lines, hollowed out at the top at intervals to give the form of hanging in festoons. These festoons spring from standard plants of Acer Negundo variegatum, the ends of the convex festoons meeting just under the silvery head of foliage, and being supported thereby. The line of circles on the exterior of the accompanying plan gives the sites occupied by the variegated Acers. The finest edge of this border, here in a level with the gravel walk, is edged with turf. Next this is a broad circular gravel walk, as seen in the plan, then a scroll bed inlaid in turf, then a sharp fall of some 5 feet leads to a sunken panel garden, in the centre of which is a fountain. So much for the general outline of the grounds, and disposition of the beds. The galvanised iron fence on each division of the outer border, is continued across the gravel walks, dividing them by means of lofty and handsome wire arches, from the centre of which, and immediately over the centre of the walk, hangs an ornamental basket in wire, which, during the summer months, is filled with flowering plants. Hops, climbing Roses, Clematises, &c., run over these arches, and form conspicuous and attractive objects when viewed from any distant point. At the corners next the central walk, and corresponding to the corners from which the ornamental wire arches spring, are placed stone vases on pedestals, filled in the spring months with Tulips, Dielytra spectabilis, &c., and in the summer months with showy flowering and foliaged plants.

The lines running from front to back in the outer border, as seen in the plan, represent divisional rows of dwarf Spruce Firs, about 12 inches in height. These remain here constantly, and are kept clipped at intervals to keep the line dwarf and regular. The panel with double lines in each division so formed, is also formed of two lines of Spruce Firs. These, however, are removed when the summer-bedding plants are placed out. This circular border is about 10 feet in width, and rises from a level with the gravel walk to a height of nearly 3 feet at the apex, in which is planted the Yew hedge. Inside the double line of Spruce Firs was a line of the variegated Arabis next the Firs, the space between filled up with double crimson Daisies. The groundwork outside the Firs was filled with Stachys lanata, with the exception of the rounded angles, which were masses of Aubrietia purpurea. Each bed was planted in the same manner, with the exception of the centres in this respect, a mass of the blue Forget-me-not, with which was mingled a pretty pale-striped single Tulip, alternated with a mass of the pink Silene pendula, with which was mingled a showy double crimson Tulip.

The scroll bed in the inner side of the walk was one of the finest features I have ever beheld in the way of spring gardening. It was a chaplet of various colours, inlaid on the emerald turf. In length, this border is upwards of 90 yards, in width about 5 feet. It was almost wholly planted with Daisies, and it required 7000 to work out the design, independent of the other plants employed. The serpentine line in the plan represents a broad line of the double crimson Daisy; the groundwork of the bed occupying the rounded angles was composed of double white Daisies. On either side of the crimson serpentine band were lines of Echeveria secunda. The line of circles next the walk were composed of rings of Viola cornuta on the outside, then a ring of pink double Daisy encircling a centre clump of the crimson-foliaged Ajuga reptans. The

circles on the fountain side were formed thus:—An outer ring of the golden-blotched double Daisy, an inner ring of Aubrietia purpurea, and a central clump of the Ajuga as before.

Passing down the turfy slope, the sunken panel garden is reached, composed of four beds, in shape resembling the divisions of a circular line, and four small circular beds, in which was a pedestal of "slag," a blue-tinted deposit left in the manufacture of glass, supporting a stone vase. These vases had previously been filled with vari-coloured Hyacinths, but had now as occupants large plants of Centaurea candidissima. Round the base of each pedestal of slag was a row of Echeveria secunda. The four other beds were also edged with this useful plant, and filled with bright masses of Silene pendula, mingled with which were showy Tulips of various colours. The fountain is within a stone basin, the edge of which is level with these beds. There is also a border round the stone basin, having, as a background, a circle of the common Fern, then a band of Wallflowers mingled with double crimson and double yellow Tulips, the whole edged with showy gold-laced Polyanthuses.

I have attempted to pourtray this "floral scene," but to appreciate it, it is necessary to look upon it. The numberless details, all of them skilfully wrought out, cannot be described even in the somewhat large space this paper will require. I must, however, make allusion to a broad border, some 10 feet in width, under the wall on either side of the garden, along the side of which runs a broad gravel walk. The wall is covered with fruit trees, and in front of these, as a background to the

flower border, but allowing of a narrow walk between it and the fruit trees, is a hedge of dwarf Roses that bloom the summer through. This flower border represents a chain of diamonds formed by the use of the dwarf Spruce Fir. On two sides of the garden these diamond beds were filled with the blue and white Forget-me-not and Silene pendula alternating; and on the two other sides the beds are planted with Cliveden Blue, White, Yellow, and Purple Pansies alternating. The angles formed by the diamond beds are all filled with Cerastium tomentosum, which comes into full bloom by the time the spring flowers are at their best, and when the bloom is past it is clipped with sheers, and does admirable service all the summer as an ornamental-foliaged plant. Probably no one can realise sufficiently the value of the Cerastium as a bedding plant but those who have seen it growing in great masses as it is used at Aston. The two lines of angles at the front of the diamond beds give grand masses of white, and in the summer months, when the beds are diamond shapes of dazzling scarlet or golden yellow, the effect is surprising. Each corner of this garden gives a huge mass of Rhododendrons with a background of Cedrus deodara. Then there are also huge turfy angles formed between the arms of the cross, as shown in the design of the flower garden. As I have already stated, the border slopes toward these as toward the paths. This border is planted with

huge masses of blue Forget-me-not, Silene pendula, Tulips, dwarf Roses, among which are Tulips also, and other showy agencies. About the turf are specimen trees, ornamental shrubs, &c., and small flower borders filled at the time of my visit with spring-blooming plants.

That Mr. Quilter marches with the times, is seen in he fact that he has what he terms a "reserve garden," which is not only a place for the reception of the spring plants during the summer months, but also a trial ground, in which is bedded out a small quantity of any new bedding plant that challenges attention. If they succeed here they are used hereafter, if they fail they are condemned as useless. There is also an extensive service of glass, for the propagation of plants—a large nursery, in fact, and it is very interesting to go through the houses and pits during the month of April, and note the quantities of certain leading bedding plants that are being grown on for use in the summer. Such things as Echeveria metallica, for instance, are largely grown, and I saw here, growing in pots, six of the finest, healthiest, and best developed specimens of this plant I have ever met with.

And so I leave Mr. Quilter and his wonderful garden. My enthusiasm as a practical horticulturist was increased tenfold as I looked on the triumphs of the art as seen here; but this gave place to another feeling—that of profound gratitude, as I saw how flowers and their surroundings can be made a mighty lever in the way of social and moral elevation; and I left this place prouder than ever of our pursuit from perceiving the deeper significance of great popular displays of this character. —Via.

FOSTER'S PATENT BOILER.

Mr. T. Taylor, of Lancashire, must be well known if the postman is sure to deliver a letter to his address. I feel I should like to know him (he writes so good-naturedly), and promise him a welcome if he will pay me a visit. He is quite right in one thing—I am a bit of an enthusiast. If an idea strikes me I hammer at it. If it appears a good idea it seems so natural to communicate it to others, that the scribbling fit takes me at once. Having built nineteen houses, some of them amongst the largest in the trade, everything connected with their construction and heating has interested me. If I have suffered in any way from bad construction, badly manufactured glass, adulterated paint, imperfect boilers, or anything of the kind, I have at once written to "our Journal" on the subject. Indeed, I believe no one has been more interested in the subject of horticultural buildings than myself, though I never received a sixpence for advice, or discount on orders entrusted to me. I think I shall turn over a new leaf, and when Mr. Foster makes a fortune by his new boiler, shall send in my claim.

As to Mr. Taylor's remarks, let me say first I always take, if possible, a full hour for dinner, and it took exactly that time to heat the water. I believe a mere "hatful" of fire was what I wrote, but I did not suppose it would be taken literally, using the term for a small quantity. Now, as I find it necessary to be very particular, let me tell Mr. Taylor that having a thick head my hat is rather large, and my man thinks there was at least three hatsful of cobbles on the fire, and that if I had employed the hat as a measure, accuracy would have been gained at no great pecuniary sacrifice. Having, I hope, satisfied my friendly critic on the above points, let me remind him that every one's geese are swans; and though to Mr. Foster alone belongs the credit of rearing the bird, I have taken great interest in the process, and feel for it almost a paternal affection.

I have sent you photographs of the boiler; and if you think it worth while to illustrate this article with a woodcut, I think any of your readers capable of understanding the subject will see at once that to compare a common saddle boiler with it is absurd. Of the many persons who have seen it at work, not one has, in my hearing, taken exception to anything that has been said in its favour. Mr. Veitch, of Chelsea, has ordered one; and I have persuaded Mr. Foster to agree that if it will not heat 2000 feet of 4-inch pipes he will take it back. I am bound to say it is rather against his own judgment he has given this guarantee, but I was very anxious its full powers should be tested. If a boiler costing less than £20, and so easily fixed, should be found capable of heating the above quantity of piping, nothing more will be required to show its value; but if not, I shall still say of it that having, I think it is eight, different boilers at work, there is not one of them but burns quite double the fuel, according to its work, that the new one does, and any one who doubts it shall have the opportunity of testing the same with his own hat for a measure. In case it should be found that a boiler of this construction 3 feet 9 inches in length will not heat satisfactorily 2000 feet of piping, it will only prove that a larger size is necessary, not that the principle is wrong.

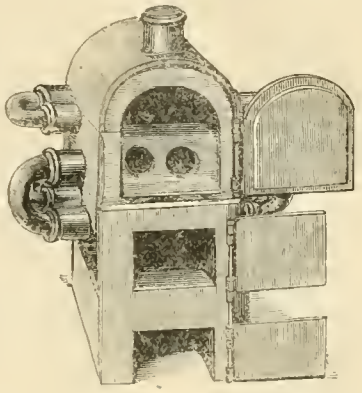


Fig. 1.

Fig. 1 represents the front of the boiler; the lowest door being the ash-pit door, the middle one the fireplace, and the highest door that for cleaning out the soot. *Fig.* 2 is a side

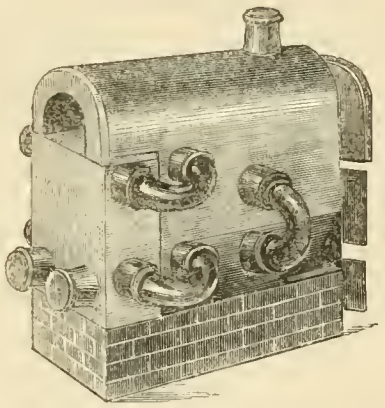


Fig. 2.

view, showing the back against which the flame strikes; after doing so it returns through the two holes shown in *fig.* 1, and then passes back under the arch of the boiler into the flue or

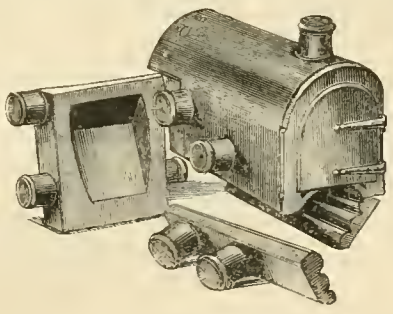


Fig. 3.

chimney. The flow pipe is seen at the top; the two return pipes at the back, and at the side three of the six bent connections uniting the different sections of the boiler. In *fig.* 3 are seen the four sections of which the boiler is composed.—J. R. Pearson.

ORCHARD-HOUSE FAILURES.

I was rather surprised to see by Mr. Pearson's letter of last week that he anticipates nearly a total failure with his orchard

houses, and, moreover, that the failure is universal round him. As there is a like failure out-doors in many places, the loss must be severely felt.

However, if the failure of this season should induce the general heating of orchard houses, it will certainly be a salutary caution. With respect to the advantages of heat, I have a small orchard house here, 25 feet square, containing about forty trees, all planted out, the majority Peaches and Nectarines, with a few Apricots; twenty in the centre bed, the rest round the border and on the end wall, one end of the house being formed by a dead wall. The trees all flowered well, and although we scarcely had a glimmer of sunshine, by the application of gentle fire heat they set well. They have since had several thinnings, and are now, with the exception of six or seven of the trees which I turned out this last season, all well covered with fruit, and are now all in splendid health. On the other hand, there is need to be careful, and not to give too much heat, as that would likely also cause failure. I consider that the most efficient aid in the orchard house is the syringe thoroughly well used, although in unheated orchard houses such a season as we have had would almost prohibit its use.

One remark in conclusion. I think that those who are only in possession of one orchard house may well take this consolation, that when such men as Mr. Pearson fail, failure is unavoidable, and the only thing to be done is to adopt his advice, and put pipes in their houses, and there will be no fear for the future.—J. H. Davis.

REMINISCENCES OF THE ISLE OF WIGHT.

Much has been said and written about the Isle of Wight, its different features, its splendid views, its variety of scenery both by land and water, and its agreeable temperature, owing to the heat of summer and cold of winter being moderated by the sea air. To a great extent this is one reason why the Isle of Wight has become such a favourite resort for the last quarter of a century, during which period the increased facilities for locomotion both by land and sea have been such an advantage to many thousands of the middle class, besides tradesmen in the large towns, and all the artisan class. The Isle of Wight is no less varied and interesting geologically than it is superficially to the less scientific traveller. In a geological sense it seems like a continent crumpled up into a few square miles, and then dropped into the sea close to the shores of England. But my reminiscences must be confined to it as "the garden island," as its natives are so fond of terming it. Let me note one of their words which I have overheard when in conversation amongst themselves—namely, the word "overers," applied to persons who are not natives of the island, they have come over the water. Formerly "overers" were looked upon as persons whom they would charge extra for everything. Some years ago, when sinking a well on the east side of Ryde, the first few yards were of a strong brick earth, then about 2 yards good yellow gravel, the next 25 feet a clean blue clay as fine as if it had been strained through a sieve. At about 22 feet from the surface, and 12 feet into the blue clay, we came upon the trunk of a tree lying horizontally in the clay; when taken up it seemed like a lump of coal, but from exposure to the air it crumbled away. I still have a small portion of it. It was only in the small gravelly portion we found any water; the clay merely acting as a reservoir.

Passing to the south of the island and entering Bonchurch parish you reach East Dene, the marine residence of J. S. Henry, Esq., M.P. The mansion nestles close at the foot of a steep bank, having a few acres in front and about it of comparatively level ground, but at the same time falling away a good deal seaward. In front and round the house are some large trees, principally Elms. At some distance off, overlooking the sea, are the gardens, in which are a number of vineries, pineries, and other structures, and there is a large conservatory by the house. All are in first-rate order. Then come both the old and new churches of Bonchurch, occupying very romantic positions, and well sheltered among trees; while close by is the marine residence of Sir J. Pringle. The entrance from the high road is quite a curiosity. It seems while this portion of the hill had been slipping away to the sea, a huge piece of rock, it may be 200 yards long and 20 or 30 yards wide at its base, and from 30 to 60 feet high, took its lodgment here. These measurements, however, are by guess, but they will give some idea of this rock. Its sides are very steep, and over all are growing shrubs, trees, or grass. The house is not more than 100 yards from the high road. The entrance is by an archway cut through this rock; and the house, a large mansion, is only about 25 yards from the bottom of the rock. Once inside, it will be perceived that a liberal expenditure has been incurred to render this a first-class marine residence, as there are ranges of forcing-houses, and attached to the house a large and lofty conservatory. At a few hundred yards' distance, on the opposite side of the main road, Dr. Leeson in his retirement, made and cultivated several singular little bits of gardens on the shelves of the rocks, trained Pear trees against the rocks, had greenhouses against the rocks, and ferneries running into their clefts.

At St. Lawrence, about a mile west of Ventnor, in one portion of the grounds, an attempt has been made to combine the useful with the ornamental. Along the face of a steep hill are cut terraces from 2 to 3 yards wide, the front of each being walled from 3 to 5 feet high. Against the walls were Vines. The half of the level terrace next to the top of the walls was laid out in flower border, the other half being walks. A walk passed in at the bottom, having a flower border beyond it; then came a piece of grass with trees, and at the top of all these terraces ran a row of upright irons with chains suspended between, having Roses growing over them so as to form festoons. A little further to the westward are some very large Fig trees, yielding every year large crops of fruit.—G. Dawson.

NOTES AND GLEANINGS.

The new Southwark Park was opened on the 19th ult., by Sir John Thwaites, the Chairman of the Metropolitan Board of Works. It consists of sixty-three acres of ground, formerly market gardens, situated near the Spa Road Station, about a mile from London Bridge—a densely populated neighbourhood, to which it will, doubtless, prove of great advantage as lungs, and as a place of recreation. It was laid out by Mr. A. McKenzie, of Alexandra Park, and has cost upwards of £95,000. A large space is devoted to a cricket ground, and other spaces to shrubberies and a flower garden.

—— We have just returned from a visit to the nurseries of Mr. William Paul, at Waltham Cross, and by the time these pages are in the hands of our readers, the Roses in that nursery will be breaking out into a blaze of beauty. We are afraid to say how many thousands there are in the nurseries altogether, but fifteen thousand in one "piece" is a sight worth seeing. Mr. Paul's new seedling, Princess Christian, is one of the grandest Roses in cultivation—a Titan in growth, with foliage large and glossy, and a bold flower, having the unsurpassed form of the "old Cabbage," and a colour reminding one of the under-cooked flesh of a grand salmon—that is the Rose Princess Christian.

—— The following are the results of the recent examinations of gardeners, by the examiners appointed by the Society of Arts:—In Floriculture the first prizes of £5 each, offered by the Society of Arts and the Royal Horticultural Society, were awarded to Michael Middleton, aged 22, of Richmond; and the second prizes of £3 each, to R. I. Lynch, aged 19, also of Richmond. In Fruit and Vegetable culture, the first prizes of £5 each, offered by the same Societies, were taken by Michael Middleton, and the two second prizes of £3 each, by Alfred Bradley, aged 26, of Deptford. The certificates granted were as follow:—

	Floriculture.	Fruit and Vegetable culture.
A. Bradley, Deptford (26)	1	1
B. Cargill, Liverpool (27)	3	—
C. Fryer, Lambeth (28)	3	—
F. Hardisty, Edinburgh (26)	2	2
J. C. Higgs, Southampton (28)	2	—
C. Lawton, Hull (25)	1	2
R. I. Lynch, Richmond (19)	1	—
J. McPherson, Southampton (23)	—	3
M. Middleton, Richmond (22)	1	1
W. Nettleton, Huddersfield (31)	2	—
W. Parkinson, Liverpool (23)	3	3
W. Ritchie, Edinburgh (22)	—	2
J. Smith, Richmond 27)	1	1
T. Smith, Hull (18)	8	3

—— The following prizes are offered for competition at the meeting of the Fruit and Floral Committees, to be held on Tuesday, July 6th—viz., 1, Twenty-four Carnations, cut blooms, distinct (Nurserymen), £1 5*s*., £1, and 15*s*. 2, Twelve Carnations,

cut blooms, distinct (Amateurs), 15*s*., 10*s*., and 7*s*. 3, Six Carnations, cut blooms, distinct (Amateurs), 10*s*., 7*s*., and 5*s*. 4, Twenty-four Picotees, cut blooms, distinct (Nurserymen), £1 5*s*., £1, and 15*s*. 5, Twelve Picotees, cut blooms, distinct (Amateurs), 15*s*., 10*s*., 7*s*. 6, Six Picotees, cut blooms, distinct (Amateurs), 10*s*., 7*s*., and 5*s*. 7, Thirty-six Carnations, Picotees, and Cloves, mixed, cut blooms (Nurserymen), £1 10*s*. and £1. 8, Twelve Carnations, Picotees, and Cloves, mixed, cut blooms (Amateurs), 15*s*., and 10*s*.

—— The floral decorations at Buckingham Palace in honour of the visit of the Viceroy of Egypt, were supplied by Mr. Wimsett, of the Ashburnham Park Nursery, Chelsea.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The frequent showers we have had of late have been most favourable for the operations of this department. Every yard of ground that can be spared should be planted with winter vegetables. Stir the surface of the ground amongst all growing crops where practicable; doing so will enable the rain to percolate through it more equally, and will check evaporation. If not already done, a good breadth of *Brussels Sprouts* should be planted in rich deep soil, for if not planted at once the crop will be poor, and it is very desirable to secure a good supply of this most useful winter vegetable. *Endive*, those who desire a good and constant supply of autumn and winter Endive must make a full sowing at once. Endive is generally sown too thickly. Another sowing may be made about the middle of the month, after which the plants will not attain their full size. As soon as they are a few inches high mow the tops of the leaves off with a scythe, cutting about one-third of them away.

FRUIT GARDEN.

Those who fully understand the importance of thoroughly ripening the wood of all trees on walls and espaliers will, of course, pay attention to thorough thinning and early training. We cannot expect Peach trees to ripen their wood perfectly when the young shoots are dangling from the wall until August. Pear trees at this period should also have as much attention as Peaches. The breastwood must be kept short, and in doing this remove it from the upper half of the tree first. Proceed with the fastening-in of the young wood of wall trees, and see that they are perfectly free from insects. Gross shoots that were stopped early in the season should be divested of all laterals except one, or, if they can be spared, removed altogether. Look to preparing Strawberry runners for forcing next season. When Strawberry plants have ceased to bear for the season, and have borne on the same ground for three successive years, they ought to be trenched down, and the succession kept up by making fresh plantations of those that have been forced, taking care that the soil is trenched and well manured at least 2 feet in depth. Currants growing against walls or other fences ought now to be matted over, to protect them for use in autumn and winter. See that the shoots of young grafts are nailed or tied up as they advance, to prevent their being broken by the wind.

FLOWER GARDEN.

Late-sown annuals should be thinned so soon as they are well above ground, for if left to grow too thickly they spoil one another, and never make half the display that plants do which are allowed plenty of space, and which are grown strongly from the first. Attend to staking such of the herbaceous plants as require it before they are blown about and injured, and do not huddle the stems together, as is too frequently done. Early-flowering bulbs, as Tulips, Hyacinths, Turban Ranunculuses, &c., will now or very soon be ready for taking up, and should not be left in the ground after the decay of the foliage, as, if wet weather occurs, they will be making fresh roots, which weaken them for next season. On light, dry soils American plants will be greatly benefited by a good soaking of water after flowering, and the finer sorts should be mulched to assist in keeping the roots moist during the growing season. Attend to the propagation of the better sorts of Pentstemons, which are exceedingly useful plants; also see to having a good stock of border Picotees and Carnations, which are invaluable for cutting, and although now discarded from the parterre, should not be overlooked. Cuttings of these put in before they become too hard, root as freely as Pinks. Water Dahlias during dry weather. It will be serviceable to mulch the surface of the soil with rotten manure. Trap earwigs and other destructive insects. All newly-bedded-out plants will, during hot weather, require attention in watering. Attend diligently to standard Roses; constant disbudding is necessary at this period, also keeping down suckers. Let every attention be paid to propagating a reserve stock to fill gaps, and let plants already rooted, or the remains of store pots, have kindly cultivation forthwith, in order to be ready for that purpose.

GREENHOUSE AND CONSERVATORY.

Now that the conservatory is relieved of all superfluous stock, nothing remains but to carry out a cleanly system of cultivation, and to introduce fine specimens from other houses. This house should now be gay with Achimenes, Clerodendrons, Allamandas, Gardenias, Stephanotis, and other showy plants from the stove, for without the assistance of these it is hardly possible to produce a first-rate display at this season. If the house can be kept rather close, many of our more attractive stove plants will be more at home there while in bloom than they would be in the stove itself; and the length of time they retain their beauty under these circumstances renders it very desirable to grow them largely for this purpose. To do them justice, however, the house should be cleared of Cape Heaths, and plants that are soon injured by a confined atmosphere, for few stove plants will succeed in a temperature that is regulated for Ericas and similar plants. If the present occupants of the beds and the twiners, however, are such as require a free circulation of air, the house must not be kept so close as to injure them; but where Passifloras, Ipomæas, Mandevilla suaveolens, Tecomas, Begonias, &c., are grown for covering the roof, and Orange trees and other subjects which enjoy a fair amount of warmth and moisture while making their wood occupy the beds, the hardier stove plants will form the most suitable decoration for the next three months. Go over the twiners frequently and regulate the growth before the shoots become entangled, but avoid keeping them tied too closely, for they are never seen to advantage unless they are allowed to hang down in a natural and graceful manner. Sickly specimens must be frequently examined for insects, and means used to destroy their enemies as soon as they are perceived, otherwise they will spread to adjoining plants and be more difficult to eradicate than if taken in time. With respect to mixed greenhouse plants pursue the directions given for the conservatory. Use abundance of water morning and evening with a particularly free circulation of air. Continue to make cuttings of gay-flowering plants for a late autumn display. Camellia stocks may now be grafted, choosing the young wood which has the leaves perfectly developed, and which is of a ripening brown at the base. A slight hotbed affording a bottom heat of 80° from fresh fermenting material, will be found suitable for them, placing a foot of cinder ashes over it to keep down worms. Amaranthus melancholicus ruber makes a fit edging plant under glass, and a good supply of it should be secured for that purpose.

STOVE.

As regards stove plants, a very free use of the syringe with abundance of air night and day should be persisted in, the main business being to produce sturdy plants with short-jointed wood. Liquid manure composed of cow drainage, guano, and soot water should be constantly in use, taking care to employ it in no other way than clear and weak. Give air liberally to Orchids, syringing them freely early in the morning, and shutting-up early in the afternoon. The stock will now be growing very rapidly, and must be afforded sufficient space to allow of perfect development of the foliage, and the formation of compact handsome specimens. A slight shade will be indispensable for tender plants in active growth for a few hours during the forenoons of bright days. Plants that are known to suffer from the direct action of the sun's rays should be placed in a shady part of the house, or kept together at one end where they can be shaded without interfering with plants that require plenty of light.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

The 25th and 26th ult. have been as yet the only fine hay days in this quarter. The latter day, Saturday, was hot and parching enough, after so much dull moist weather, to try many crops recently planted, as Cauliflowers, Lettuces, Brussels Sprouts, Broccoli, &c., and a little water was given to them at the roots to prevent them feeling the effects of a too rapid evaporation from their foliage. One great essential to rapid

success in all departments of gardening is never to allow a plant or a cutting to flag. We have no faith in cuttings or Cabbage plants which have flagged if they can be avoided. We have seen Cabbage and Cauliflower plants carried in bundles with the roots exposed, and left lying about before planting, as if the more withered the foliage, and the more parched-up and destroyed every fibre of roots, the better might the plants be expected to thrive. Just so with *cuttings*, they often are so carried and tumbled about that they are half-dead before they are made and planted. There is one rule which, though not appertaining to this department, is universally applicable in growing cuttings of all kinds, and that is, whenever a cutting is taken from its parent plant, put it as soon as possible into its new position, and then prevent the evaporation of its juices too freely by shade or a close moist atmosphere. A second good rule is, when cuttings are brought from a distance, and they become a little withered in the journey, never to place them in water to revive them. This is often done by beginners and the inexperienced, and though it often seems to freshen up the cuttings, it generally so fills the stem with watery juice that there is a likelihood of rotting or damping-off afterwards. The far better plan is to lay the cuttings down thinly in a shady close place, and sprinkle them all over with water, making thus the floor on which they rest damp. The foliage will thus recover its healthy appearance, whilst little extra moisture will be absorbed by the base end of the cutting. Cut flowers may often be preserved a long time in fresh water if a small slice be cut off the base of the shoot every day. A fresh basis for absorbing liquid is thus given. Without such care the base of the shoot soon decomposes, and this is what we wish to avoid in the case of a cutting.

Exactly the same principle, though in a modified degree, should be acted on in *planting out* with the dibber Cabbage and Broccoli plants. If the plants are raised at home, it is well to puddle the roots as taken up, to prevent the fine fibres becoming parched up in the mere carrying to the ground. When brought from such a distance that the leaves are likely to be flagged on arrival, it is well to puddle the roots before starting them on the journey, and if not so treated, to do so when they arrive; but in either case, never allow them to stand any time in water, but rather lay the plants down thinly, and damp them all over, which will soon swell the foliage and the stems. We have often been pained at seeing thousands of bundles of young Cabbages and Greens so marketed and exposed in the journey home, that every fibre of the roots was parched up, and though the plants ultimately flourished, they did so from the inherent force of vitality enabling them in self defence to put out fresh roots from the main descending axis of growth. If the roots of such bundles had been wrapped in damp litter, or even protected with a Cabbage or Rhubarb leaf tied firmly round them, there would have been a considerable gain of time as to fitness for use. We have seen hundreds of bundles of such plants in markets, where from lying on each other the foliage did something to protect itself, but with the root ends all exposed as if they could not be dried enough.

Peas and Beans.—Hoed all the ground about them to keep moisture in, but a few days of such weather will render it necessary to give them water at the roots where bearing heavily. If let alone, this promises to be a good season for Peas. Our late-sown ones have not been touched since we put a few poisoned pellets beneath the open wire netting, but we are almost beaten by the sparrows. They made many a breakfast on the buds of the earliest, and now frequently save us all trouble in gathering and shelling the pods.

Celery.—The great point now, until earthing-up time, is never to let the plants become dry. Every time they are allowed to feel the want of moisture is an inducement to the plants to throw up their flower stems, when, however blanched, they are fit for nothing but soups, and scarcely for that. In the parching summer of last year we saved ours from bolting by a dense shading for fully a month. If we should have a few more such bright days, we shall stick a few branches by the sides of our beds, to prevent such a free evaporation from the foliage and soil.

Cucumbers.—Banked up the frames to keep a regular temperature, and ere long will remove plants from a pit, and plant others in fresh soil, as they are showing the effects of heavy cropping. We met the other day with one of the most successful Cucumber-growers, who has a very neat span-roofed house for the purpose, and for two or three years the disease has nearly mastered him, although he has procured fresh seed from great distances. No place, be it pit or frame, is exempt from the pest; though at a short distance in another place, no sign of the disease has appeared.

Pea Gathering.—Even this simple matter requires system. Many a row only yields half the produce it would have done, because the gatherer in plucking the pod nearly pulls up the Pea plant. The very precise may nip off the pod by applying small scissors to the stalk of the Pea, but the simplest plan is to use a small sharp-pointed knife in severing the stalks, and no strain is thus given to the Pea plant.

Dwarf Kidney Beans.—A good supply of these is useful now, before they can be obtained in the open ground. In heated houses it is rather dangerous to have them, except in a pit appropriated entirely to them, as in hot sunny weather they are so subject to red spider and thrips. They suffer little from such pests when merely covered with glass—such as old sashes. We have had a plentiful supply, grown in pots in a little heat, and then turned out pots and all. A second supply in an earth pit just showing bloom was grown, four or five in a 6-inch pot, and then turned out into the ground. The dwarf kinds are best for this purpose, and even they on the whole do best when stopped at the first or second joint above the seed leaves. We lately met with one not so generally known as it ought to be, grown in-doors and out of doors, almost to the exclusion of every other kind, by Mr. Beales, at Wharton Wood Hall, and named Sir Joseph Paxton's Kidney Bean. The Bean itself is small, about the size of the Newington Wonder, but it produces a fair-sized pod in great abundance, though even in a hothouse the plant continues very dwarf and needs no stopping. The latter fact is of importance for forcing and early work, as the stopping delays the blooming. The slightest glance showed us these distinctive features, which we hope to turn to future advantage. We do not know how this variety came to be named after the great gardener, but some of our readers may be pleased to learn, that the same substantial wooden bedstead on which Sir Joseph slept when attending the furnaces at Wood Hall, is still doing good service; and let us hope, as there is much even in little circumstances, may do something to foster the genius of other youths who will be as great in gardening, and as worthy in true manliness of character as Sir Joseph Paxton.

We need not repeat the importance of planting winter vegetables in every available space. We only wish we had more space at liberty. When that cannot be done, the next best plan for securing a good return in winter, is to plant out in rich rough soil, at from 4 to 6 inches apart, and raise and plant with balls. On the whole we find this plan answers better than planting at once between rows of Potatoes, Peas, &c., where the plants are likely to be drawn up by shade.

If this hot weather continue, *Cauliflowers* will need abundance of water. This season, amongst our earliest, which had the help of hand-lights in winter, we had six or seven of what might be called flowery heads, more open and green than usual, not fit to send to table, though, as far as we could judge, the plants seemed the same, the rest yielding noble close white heads. What can be the reason for this departure from the normal state? We have chiefly depended on the London Market Cauliflower, for though a little long in the leaves, it yields fine returns; but there is a much more compact kind, as respects foliage, grown on the east side of Hertfordshire, by Mr. Hill, of The Poles, Mr. Beales, of Wood Hall, and Mr. Cox, of Kimpton Hoo, all, we believe, with different names as Hill's Cauliflower, Hertfordshire Cauliflower, Cox's Cauliflower, &c., and all to a stranger seeming very much alike, but marked chiefly by the broad-spreading leaves, the comparative dwarfness of the plants, and the good size, compactness, and whiteness of the head. We have found that even the London Market Cauliflower assumes the best of these properties when thinly planted, and that the superior kind or kinds become long-leaved when thickly planted. Amateurs, and gardeners too, in choosing the best varieties, should give these fine Cauliflowers a fair trial. When from home for a few hours lately, we noticed a fine white Broccoli of Mr. Cox's, just heading when most others were gone; and we find that Mr. Francis, of Hertford, has a cream or sulphur-coloured one, that rarely comes in until June—a matter of importance where early Cauliflower cannot be easily had. For the table, of course, the white looks best; but we have found cream and purple-coloured often richer and sweeter in flavour.

FRUIT DEPARTMENT.

So late is the season, that with us Strawberries out of doors, with the exception of a few of the Black Prince, are only beginning to colour. Fortunately, we shall have a supply for some

time longer under glass, and Peaches are now coming in from Peach houses to make up for the deficiency of Strawberries out of doors. As already stated, our out-door Strawberries will not be a good crop, owing to the parching effects of last season on the crops, and watering being out of the question. Water is so very essential in a garden, that the means of supply should be carefully considered in the formation of all new gardens. What comparison can there be as respects management and results, where in a dry season every pond must be brought into requisition, and horse and cart employed as long as any water lasts, and the case of a garden where for syringing walls, watering borders, and flooding quarters, nothing more is required than a flexible pipe screwed on the end of a tap with a man or boy at the end of the pipe to direct it aright?

Peaches swelling and ripening had a fair supply of water; later houses had the shoots thinned, and in a few cases, but not many, the fruit well thinned, as in most cases it is thin enough in late unheated houses, and we shall have few on the open wall, though they showed plenty of blossom. We stated our apprehensions on pruning the trees in spring. The buds were parched in the dry weather from want of water, and the autumn growth made the matter worse, and there was no sun to open and foster the fertilising pollen, and hundreds of pistil points we closely examined never had the means of secreting the moisture on their summits, so as to catch and transmit any little pollen dust that might have reached them. Except where heat was applied, and growth was perfected more early, we shall be scarce of stone fruit, except Cherries and Plums. Even Apples which set thickly, have dropped numbers of young fruit, and numbers of young bush trees have a brownish hue instead of the rich green with which they used to cheer us. We expect that some Pears and Apples will drop, and more especially when for three following seasons the trees have been heavily laden; but more have dropped this season than usual, which we attribute chiefly to the roasting which the shoots and buds had last season.

We went over part of our fruit trees, shortening, pinching, and thinning the young wood, so as to admit light and air nearer home. We would have been at this work earlier if we could have found time. Whatever else should be neglected no time should be lost in stopping or removing over-luxuriant shoots; they not only rob other moderate growers of their proper strength, but are useless themselves for any purpose, as their extra luxuriance will prevent their due ripening, so as to be fruitful. Fresh-planted trees have had a little water at the roots. The natural moisture and the coldness of the soil have rendered the little quite sufficient for the purpose. As the ground gets warmer more will be necessary.

ORNAMENTAL DEPARTMENT.

Merely as a proof of the coldness of the soil, our Scarlet Pelargoniums, &c., out of doors, have done but little more than hold their own, the flowers are still rather few, the plants anything but masses of colour, whilst some Calceolaria beds and groups are really thickly studded with bloom. So far as they are concerned, provided we could keep the ground as moist and cool as it is now, and give them plenty of bright sun, we should have no reason to find fault with their not thriving and blooming, as then we should be furnishing them with their normal conditions of natural growth on the lofty hillsides of Peru and Chili. Most of our rather tender plants that we cultivate under artificial circumstances, like the water given to approximate in temperature to that of the atmosphere of the house, but, as a general rule, the whole tribe of Calceolarias prefer cool water to that which is warmed. The great essentials to their free growth and free blooming are a bright sun and a cool damp soil. We cannot easily secure the latter conditions in a hot summer, as the soil will partake of the warmth of the atmosphere, but still we can do much by surface-stirring and surface-mulching. If we have a few days of this fine hay weather, we shall mulch our Calceolarias with rotten dung to keep the heat and dryness from their roots.

Our few first-planted Perillas have been removed as the worse for the cold weather, and our bulk is planted out, consisting of good strong plants, which now we expect will go on well. Some plantations we have seen of young Coleus turned out, looked very miserable, and will only recover from the check from cold if we have sufficient heat to warm the ground and cause them to break afresh. We are now exposing ours in pots, night and day, and having turned the ground several times, we shall most likely plant out in the ensuing week. As the plants are of a good size, they will nearly fill the space intended at once. Of course, they have taken up valuable room under glass, but, except in warm sheltered places, it is of little use turning out small plants, say in the end of May, or the beginning of June. One of our best gardeners, unwilling not to finish the flower garden at once, turned out his Coleuses in the beginning of June, and scarcely a single plant will break afresh, and he has been forced to propagate and forward a young stock. Under general circumstances much north of London, we have no faith in small plants and early planting in cold soil. Our hopes for a fine, massive, rich-coloured bed, must mainly depend on warm rich soil, good-sized plants, and water well warmed with the sun.

Directing attention to previous numbers for general work, we would say a few words on sending bedding plants, &c., great distances at this period—that is, the packing of a great number in little bulk. Of course, when nurserymen send plants, each standing upright in a wide, shallow hamper, there can be no danger; but when gardeners and amateurs assist each other, as they often do at this time, and send the plants laid down in a box or hamper, the plants often suffer greatly before they reach their journey's end, chiefly from shaking and heating; the first from loose, and the second from too-close packing, and using grass, hay, and other unsuitable materials. We have opened a middle-sized hamper, and could scarcely hold our hand in the centre of it, and, of course, the plants were so heated, as for the most part to be useless. A good many dozen of little plants, even showing bloom, may be sent safely in a middle-sized hamper with a little attention to the packing. We have known some hampers which were not delivered under ten days, from having to traverse several lines of railway, and yet the plants did good service. The plan we have found the best, when numbers are to go in little space in a hamper, is, after the ball has been moistened and allowed to part with extra moisture, to wrap it in a thin leaf, as horse-radish, or a wetted rhubarb leaf, and pack all the balls round the sides of the basket, with the heads to the inside. Spray of dried larch, spruce, or other wood, was placed between the layers of the heads, so as to make the heap not only firm throughout, but to allow air to pass freely among the tops of the plants from top to bottom of the basket. If anything else is used, so as to be a little softer next the foliage, as moss, &c., it should be as dry as possible, damp moss or damp grass being very objectionable. If the earth about the roots is just moist, it is better than if it were at all soaking wet. Everything damp is to be avoided. Dry larch and spruce spray we like the best, but the small chippings of spray from Pea sticks, &c., answer very well. A large hamper thus packed will give no signs of heating. If a box is used, bore holes in the top and bottom.—R. F.

COVENT GARDEN MARKET.—June 30.

The demand scarcely comes up to that of last week, but a fair average amount of business is being done, and large quantities of goods have been despatched to the northern markets. Pine Apples are considerably in excess of the demand, and 20,000 West Indian Pines are reported in the river. Large quantities of Potatoes from the Continent and Channel Islands continue to arrive, the price varying from 8s. to 20s. per cwt.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples ..... ½ sieve	0	0	to	0	0	Melons ..... each	3	0	to	8	0
Apricots ..... doz.	2	0		3	0	Nectarines ..... doz.	6	0		15	0
Cherries..... lb.	0	6		1	0	Oranges 100	4	0		12	0
Chestnuts.... bushel	0	0		0	0	Peaches ..... doz.	12	0		24	0
Currants .... ½ sieve	0	0		0	0	Pears (dessert) .. doz.	0	0		6	0
Black ..... do.	0	0		0	0	Pine Apples ..... lb.	4	0		8	0
Figs ..... doz.	6	0		10	0	Plums ..... ½ sieve	0	0		0	0
Filberts ..... lb.	0	0		0	0	Quinces ..... doz.	0	0		0	0
Cobs ..... lb.	1	0		1	6	Raspberries ..... lb.	0	0		0	0
Gooseberries .. quart	0	3		0	6	Strawberries .... lb.	1	0		3	0
Grapes, Hothouse . lb.	2	6		8	0	Walnuts .....bushel	10	0		16	0
Lemons 100	6	0		12	0	do. 100	1	0		2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0	Leeks ..... bunch	0	4	to	0	6
Asparagus 100	3	0		6	0	Lettuce .....score	1	0		1	6
Beans, Kidney .. 100	1	0		0	0	Mushrooms.... pottle	2	0		2	6
Beet, Red.....doz.	3	0		5	0	Mustd.& Cress,punnet	0	2		0	3
Broccoli .....bundle	0	0		0	0	Onions..doz.bunches	6	0		0	0
Brus. Sprouts ½ sieve	0	0		0	0	Parsley ..... sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0	Parsnips ..... doz.	0	9		1	0
Capsicums 100	0	0		0	0	Peas ..... quart	1	0		2	0
Carrots.....bunch	0	8		1	0	Potatoes .....bushel	4	6		6	0
Cauliflower..... doz.	3	0		6	0	Kidney.... ditto	4	0		7	6
Celery..... bundle	1	6		2	0	Radishes doz.bunches	1	0		0	0
Cucumbers .... each	0	6		1	6	Rhubarb.....bundle	0	4		0	6
Endive .....doz.	2	0		0	0	Shallots ..... lb.	0	0		1	0
Fennel .....bunch	0	3		0	0	Spinach ..... bushel	2	0		3	0
Garlic ..... lb.	0	8		0	0	Tomatoes ..... doz.	2	0		3	0
Herbs ..... bunch	0	3		0	0	Turnips ..... bunch	0	8		1	0
Horseradish ..bundle	3	0		5	0	Veget. Marrows..doz.	0	0		0	0

TRADE CATALOGUE RECEIVED.

T. L. Mayos, Lugwardine, Hereford.—*Catalogue of New and Choice Plants and Bulbs.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week

Hawking Plants in Pots (*T. R.*).—If a person hawking plants in pots travels with them from town to town, or calls at people's houses, he requires a hawker's license.

Viola cornuta (*G. H. W.*).—We cannot give an opinion without seeing both kinds of leaves; nor can we name Beans which we have never seen.

Vines Syringing and Stopping (*G. H.*).—As the Vines are now in their stoning stage, you ought to keep the floors, walls, and flues moist by sprinkling them with water twice a-day at least, and three or four times would not be too often on very hot days, up to the time of the Grapes changing colour, when sprinkling should be discontinued. We fear you have in the "many bunches covered with something like dust" the mildew, but that we could not determine without a specimen. The remedy for that is to dust with flowers of sulphur. The shoots ought to be kept stopped to within a few leaves of the bunch, not allowing them to ramble until the Grapes have swelled off. Enough leaves should be left to shield the bunches from too powerful sun, and to elaborate the sap. It is well to have a moderate amount of foliage, but do not allow it to ramble and then reduce it wholesale. We cannot name plants from leaves only; flowers are necessary.

Orchard-house Constructing (*K. H. B.*).—The situation, we presume, is open, and has the sun's rays all the day, without obstruction from buildings or trees. The sides and ends will answer well, formed of boards, tongued and grooved, and put together very closely. The uppermost but one may be hinged for ventilation. It should be 11 inches wide, and made to open the entire length. A span roof would be best, and you could have the boards hinged at both sides, and that would give sufficient ventilation. The boards need only be dressed on the side which is towards the interior of the house. The outside being rough, may be coated with boiling coal tar, but the smooth surface may be painted with white lead. If the house be a lean-to, there should be openings for ventilation at back, immediately under the wall plate, as well as the hinged board in front. We presume you do not intend to still use the house as a poultry yard.

Dracæna Leaves Browned (*In-a-Fix*).—By keeping them shaded you will secure a more equable temperature, and the leaves will not spot or become browned at the tips; but in the shade they will be of bad colour. We do not syringe ours at all, but give them a light and airy position and abundance of room. We admit a little air early so as to dissipate any moisture condensed on the leaves during the night, and have the foliage dry before the sun shines powerfully upon them. The atmosphere should be kept moist by frequently sprinkling the floor, walls, &c. To have the plants in good colour for winter they should at once have light, as those now formed green will to a great extent continue so. The more light such plants have, the better coloured they will be; but if shaded they will grow more, and not be so liable to become brown, or go off at the tips of the leaves.

Coldstream Early Potatoes (*A Simple Scot*).—You are quite correct in stating that this very closely resembles Smith's Early. It is rather superior, but should be sold for about the same price.

Horseradish Leaf (*Mrs. White*).—The white spots are a parasitic fungi of a genus occurring on the dead and decaying leaves of the Cochlearias

Guano Water Producing Green Fly (*John B.*).—It will not induce, but rather act as a preventive of green fly.

Pelargoniums after Flowering (*Idem*).—Place them out of doors in a slightly-shaded position, supplying them with water as required, but not so much so as when growing, and yet not allowing the foliage to flag. Prune in August, and in September place them in a cold frame, setting the pots on coal ashes, and give no more water than enough to keep the soil moist; protect from heavy rains, but admit air by tilting the lights. When they have shoots an inch long, shake the plants out of the pots, and repot in others no larger than sufficient to hold the roots properly; return the plants to the frame, keeping it rather close and shaded for a few days, then expose them fully to light and air, protecting, however, from heavy rains. At the end of September or the beginning of October remove them to a shelf in the greenhouse, where they can have abundance of light and air.

Roses after Forcing (*Idem*).—Plunge the pots in coal ashes quite to the rim, and give the plants plenty of room. The situation should be open and warm. Supply them well with water, in September repot, and at the end of October remove them to a cold frame, plunging the pots as before, and admitting air on all favourable occasions, but protecting from heavy rains and severe frosts. During the latter, a covering of mats in addition to the lights will be desirable. Prune in November or December. The plants may be taken from the frame as required, and placed in the greenhouse or forcing pit.

Piozons' Dung (*A Subscriber*).—It is not so powerful a manure as guano, but is, nevertheless, one of the best manures, and may be safely used to all kinds of flowers, fruit trees, and vegetables. It should be thoroughly mixed with an equal quantity of dry soil, and stored in a shed where it will be kept dry. By being laid thinly, turned over frequently, it is kept from heating, as when it heats, as it will do if laid thickly, its fertilising constituent, ammonia, is to a great extent lost. About 1 inch in thickness is a good dressing, and may be applied now as a top-dressing to the soil near Roses and fruit trees, and again in March, neatly pointing it in with a fork, if that can be done without injury to the roots; if, however, they are near the surface, it will be sufficient to cover the manure with a little soil. For vegetables it should be applied previous to planting and dug into the ground.

Aphides on Rose and Fruit Trees (*Mrs. G.*).—There is, as you say, an unusual abundance of these pests this year, owing, no doubt, to the prevalence of cold north-easterly winds. We do not know of a better mode of destroying them than dipping the shoots on a dry evening in tobacco water, which may be obtained at any tobacco manufactory, or it may be made by pouring four gallons of boiling water on 1 lb. of the strongest tobacco, covering up, and then the tobacco should be strained and squeezed so as to express the juice. If the shoots cannot be dipped in the tobacco water, it may be applied with a fine-rosed watering-pot or syringe. There is another effectual mode of clearing off the aphides—namely, to syringe the bushes on a calm evening, and whilst wet dust them with tobacco powder, giving the bushes a good syringing the following evening. The bushes may be washed in autumn or winter before the buds begin to grow, with a composition of 4 ozs. of soft soap to a gallon of tobacco water, made from 4 ozs. of tobacco in a gallon of water; adding enough sulphur vivum, soot, and a lump of lime, unslaked, about twice the size of a hen's egg to bring the mixture to the consistency of thin paint, applying it with a brush to all the parts of the shoots and stems after pruning, rubbing it well into the angles and crevices of the bark and stem, and taking care not to dislodge the buds.

Select Roses (*Henry Bedwell, Lancashire*).—"Cloth of Gold and Maréchal Niel are so precarious, that I do not care to recommend them, but they are the finest of the yellow Roses, and would do well under glass. To your collection of seven Roses add these. They are free-blooming, and successful Roses here, and, in my judgment, they are the *elite*. *Yellow:* Gloire de Dijon, Triomphe de Rennes, Céline Forestier, and Solfaterre. The last requires a S. or S.E. wall. For free and continuous blooming, no yellow Rose has a chance with it, good and excellent as are the two first named. *Rose colour or Pink:* Baronne Prevost, William Griffiths, Gloire de Vitry, Comtesse de Chabrillant, John Hopper, Charles Rouillard, Baron Gonella, Comte de Nanteuil, Princess Mary of Cambridge, Paul Verdier, Monsieur Noman. *Blush:* Abel Grand, Marguerite de St. Amand, La France, Duchesse d'Orleans, La Sœur des Anges, Madame Knorr, Madame la Baronne de Rothschild, a magnificent Rose. *White:* Baronne de Maynard and Madame Alfred de Rougemont. *Darkest Crimson, or Maroon:* Prince Camille de Rohan, Duc de Cazes, Pierre Notting, Souvenir de Dr. Jamain, Baronne Pelletan de Kinkelin, Empereur de Maroc, Souvenir de W. Wood, Vicomte Vigier. *Crimson, Cherry colour, or Carmine:* Charles Lefebvre, Marie Baumann, Alfred Colomb, Maurice Bernardin, Lord Macaulay, Madame Victor Verdier, Senateur Vaisse, Exposition de Bric, Dr. Andry, Lady Suffield, Marshal Vaillant, Jules Margottin, Madame Boutin, Baronne Adolphe de Rothschild, Madame Clemence Joigneaux, Duchesse de Caylus, Leopold Premier, Madame Julie Daran, and Achille Gonod. It is impossible to speak too highly in every respect of the two new Roses, Marie Baumann, and Mme. la Baronne de Rothschild. I have other new Roses here, but I will not speak of them, though I think some of them very promising, till I can speak confidently. If you wish for more white Roses, I recommend the two Tea Roses, Madame Willermoz and Sombreuil. The latter is as hardy as a Hybrid Perpetual, a strong grower, and continual bloomer. Acidalie is fine, but probably it would not bloom freely in Lancashire.—W. F. Radclyffe."

Purifying Air (*G. H. M.*).—You need be under no apprehension that the air of Forest Hill is not sufficiently pure for Roses. We know where they flourish much nearer London, and close to Manchester, Birmingham, and Sheffield. If it were otherwise, there is no chemical that would purify the air as it entered the Rose-house.

Froth Insect (*R. W.*).—If you remove the froth with a sponge you will find an insect within, which produces the froth. The insect is called by entomologists Tettigonia spumaria, and Aphrophora spumaria by some. It is the larva which is inside the froth, and it should be destroyed, for by its sharp rostrum or beak it extracts the sap of the plants it infests, and voids it as an excrement in the frothy foam.

Raising Vines (*Idem*).—You will not succeed very well in the open air, but by making a frame and forming a hotbed, you may raise them in quantity. The wall might form the back of the frame, and you would only need a front wall and ends, making an excavation so as to allow for fermenting material, which should be at least 4 feet deep, and there should be a height of 2 feet for the plants to grow in. The excavation might be 6 feet wide or more, and any length. Fill it with hot dung in the first week in March, and pot in the eyes or cuttings in 3-inch pots, plunging them in sawdust, but the bottom heat must not exceed 90°. The plants should be potted in 6-inch pots when the smaller pots are full of roots. The cuttings or eyes may be potted in February, and kept rather dry until placed in the hotbed, and in July the pit may be emptied partly or wholly, according as the plants grow, to give them head room, a stick being placed in each pot to train the Vine to. If the Vines require it, they may be potted in 9-inch pots. They should be kept rather close and well watered, but not excessively, so as to encourage a good growth; keep them dry after September, so as to ripen the wood. In the following March they may be planted out where they are to remain, cutting them down to two eyes. Another batch of eyes may then be started. The Vines would not be in a bearing state until the fourth or fifth year. We shall shortly treat of the out-door culture of Grapes, or those against walls, when your queries will be more fully answered. We cannot say whether you can grow Grapes profitably on walls, so much depends on the locality. In quality they are about equal to foreign Grapes, and are worth, when first-class, about 1s. 6d. per lb. We have known them bring

less than 4*d.* per lb., when, as they often are, they were of very inferior quality.

Engine-house Windows (*J. K.*)—We fear there will not be a sufficient command over the temperature to enable you to grow successfully any kind of fruit; but you might try Vines and Figs in pots. Plants would succeed, their foliage being kept clean by frequent spongings. Store plants would be most suitable, but would not the plants obstruct too much light? A few of those most likely to succeed are:—Tillandsia splendens, Puya Altensteini, Ardisia crenulata, Æchmea fulgens, Cereus grandiflorus, C. McDonaldi, Clivia nobilis, Epiphyllum truncatum, E. violaceum grandiflorum, E. Salmoneum, Ficus diversifolia, F. elastica, and Crotons variegatum and pictum.

Polyanthus Seed not Germinating (*Idem*).—The probability is your seed was bad, otherwise your plants would now be strong. They usually appear within a month from the time of sowing.

Pyramidal Gooseberries and Currants (*A Poor Lady*).—Both are bushes, and succeed best grown in that form. You may, however, have them as pyramids by putting in a stake to each plant and heading it down to 1 foot from the ground. The heading-down being done in autumn will secure shoots in spring. One of them must be trained as a leader, erect, and other shoots tied down, rubbing off all above three. These in autumn are to be cut back to 1 foot from the stem, and the leader shortened to that extent. In the spring following the shoots from the leader are to be treated as in the previous year, only any shoots not required may have their points taken out when they have made three leaves, and be kept closely pinched back to one leaf afterwards, shortening them in autumn to within an inch of their base. The side shoots will need to have some of the shoots proceeding from them stopped, as described above, allowing such as are advantageously situated to grow so as to furnish shoots for bearing. They should be trained-in their full length, and so as produce a uniform compact head, and not nearer together than 9 inches, though they may for a time be left 6 inches apart, and afterwards thinned out. The leader will need to be shortened in autumn to 1 foot, the second tier of side shoots cut back to 9 inches, and those from the second growth of the first tier cut back to about 6 inches, leaving them longer or shorter so as to keep their extremities in the same tier, at one distance from the stem all round. The shoots stopped should be cut back to within an inch of their base. The treatment in subsequent years is only a repetition of the above, the object being to stop all shoots not required for extension, or the formation of the head, at the third leaf, keeping closely pinched afterwards to one, and cut them back at the winter pruning to 1 inch from their base. The extremities of the main shoots should, when the bush or pyramid is wide enough, be cut to 3 inches at the winter pruning, and in summer be stopped at the sixth leaf. They may be grown to any height. We have seen 6-feet standards, but we think them quite tall enough at 4 feet, and prefer them as bushes not exceeding 3 feet 6 inches high.

Cutting-back the Laurel, Arbor-Vitæ, and Box (*E J.*).—The best time to cut-in evergreen shrubs, the object not being to make them formal, but to get rid of too great a size or irregularity of growth, is at the beginning of May. It may, however, now be done, it not being necessary to do more than remove the irregular straggling growths. If, however, they require to be cut hard-in and so that little beyond bare stems would be left, they would not start sufficiently this season to make their appearance presentable. In that case it would be best to postpone the pruning until the end of April, or beginning of May.

Hoya carnosa Blooms Falling (*E. S., Chelsea*).—The falling of the blooms may be due to want of water at the roots, but we think it has been occasioned by the soil becoming sodden and sour from excessive waterings in winter, which would cause the roots to perish. Without any information as to the plant's treatment, we cannot arrive at a conclusion nor advise.

Gloxinia's Flower Buds not Expanding (*South Wales*).—The buds have had the corolla destroyed by allowing water to stand in them. It may have been a result of syringing, or of condensed moisture, and the sun's rays falling powerfully upon them whilst wet. The only remedy will be shade from bright sun, keeping them rather near the glass, and preserving a moist atmosphere by frequent sprinklings of the paths, walls, &c., avoiding wetting the plants overhead. You will, we think, yet have a good bloom. The white woolly-leaved plant is, we think, Gnaphalium lanatum; the blue is a Nepeta, but we are unable to say which from so small a specimen.

Herbaceous Plants (*Q. Q.*).—You will find lists of them with their heights, colours of flowers, and usual time of flowering, at page 40 of Vol. XIII., New Series, of this Journal.

Names of Fruits (*J. R. F.*).—No fruit is more difficult to identify than the Strawberry, there being so many varieties, and the difficulty is increased, when, as in your case, their surface has been rendered pulpy by long travelling in contact with wet leaves. The two very fine berries you have sent, we believe—we are not certain—to be Sir Harry.

Names of Plants (*W. B.*).—Your Orchids are both forms of Orchis latifolia, and only differ in colour. (*Annie Heyton*).—2, Lonicera Ledebourii. (*Tyro—W. C.*).—Colutea arborescens, the Bladder Senna. (*F. P.*). 1, Polygonum convolvulus; 2, Solanum Dulcamara; 3, Centranthus ruber. (*Margaret*). — 1, Lonicera Ledebourii; 2, Rhododendron hirsutum; 3, Thalictrum flavum.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending June 29th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 23	30.177	30.117	67	39	57	55	N.W.	.00	Fine and clear; cloudy; clear and very fine.
Thurs. 24	30.091	30.058	70	41	57	56	N.	.00	Foggy; overcast but fine; densely overcast.
Fri.... 25	30.086	30.038	70	38	59	57	N.E.	.00	Overcast; cloudy but fine; clear and fine.
Sat.... 26	30.033	30.053	74	38	61	57	N.E.	.00	Very fine; exceedingly fine; overcast.
Sun... 27	30.21	30.131	79	48	61	57	E.	.00	Very fine; fine and hot; fine and very clear.
Mon... 28	30.221	30.199	69	35	62	57	E.	.00	Fine and clear; cloudy; clear and fine, cold air.
Tues.. 29	30.199	30.134	67	43	59	57	N.E.	.00	Overcast; very fine; fine and very clear.
Mean..	30.151	30.111	70.86	40.29	59.43	56.57	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

THE EAST INDIAN BREEDS OF GAME FOWLS.

The Indian breeds of Game fowls are not very dissimilar to our own birds, though not so symmetrical, so neat, or so clean in limb and in feet. As to size, they vary like our own Game fowls, and are of much the same average size. They are, however, rather more of the Malay type, and more resemble the Malays, especially the smaller ones, than our birds do, but are perfectly distinct from them, having more of the Game shape, and being less stilty or long on the legs than the Malays. Some writers term the Indian Game fowls a smaller breed of the Malays, but any judge of fowls with a good eye can easily distinguish between the Indian Game fowls and the Indian or any other Malays; in fact, they resemble the wild Gallus ferrugineus in most respects, much more than they do Malays, though, of course, larger than the wild aborigines, considerably smaller than the larger Malays, and much more symmetrical in form than any Malays ever are. They are of good courage, which Malays are not, as may be seen on reading Col. Mordaunt's account of them, as he in 1827 took out English Game cocks to India on purpose to try the courage of the Indian Game breeds, and his birds were well beaten by them, probably owing to his cocks having suffered much from the long sea voyage to India, nearly six months, I believe. The courage of the true East Indian Game breeds is as well known in India, as the cowardice of the Indian Malay breeds is.

The Indian Game fowls which I have seen and heard of are of five distinct shades of red. I have also seen the yellow-legged Duckwings at Batavia, in Java, while I was there in 1849, but as these are not considered anything more than a cross-breed, I shall not enumerate them as a sort. I saw no Duckwing hens, but only the cocks, which strongly resembled our smaller yellow-legged Duckwing Game cocks in all respects, shape and everything.

The five different standard colours I will enumerate as follows:—

1st. Black-breasted Reds.—Eyes red, or reddish in general, the legs generally yellow, but sometimes yellowish-green or yellow-willow. General colour of cock much resembling our own birds of this colour. Hen partridge colour, with fawn breast invariably—no other colour.

2nd. Ginger Reds.—Eyes red, or reddish in general, the legs yellow in general, but sometimes yellowish-green or yellow-willow, as in the above. Cock a ginger-red colour, with a reddish ginger breast. Hen a reddish light partridge ginger, with a ginger breast—not fawn-coloured. There are no cinnamon or wheaten hens in this breed, which is closely allied to the first named.

3rd. Gingers.—Eyes yellow or daw always; legs always yellow; the colour a very yellow ginger colour, scarcely red at all. The hen of a light yellow ginger, not a red ginger; light ginger breast. This breed resembles the smaller Malay breeds more than the others.

4th. Brown-breasted Dark Reds.—Eyes very dark brown, bold and full. Comb and face inclining to gipsy in the cock, and quite gipsy-purple in the hen. Cocks of a dark brown-red plumage, with a red-brown breast, streaked with darker brown

or clear red brown. Legs dark willow colour. Hen of a dark pencilled dusky brown, with a streaked dark breast.

5th. Ginger Brown Reds.—Eyes as in the preceding sort; comb and face also. Cocks of a ginger brown-red colour, with ginger breasts streaked or clear. Hen of the same colour but lighter altogether than the preceding sort. Legs dark willow. The two last-named sorts are never yellow legged, but always dark willow-legged.

In the two sorts first named the combs are reddish, but not so red as in our red-combed breeds of Game. In the Gingers, the combs are of a yellowish colour, scarcely red at all, and the last two sorts are invariably gipsy-combed. I should also have stated that in the Black-breasted Reds, so called, the cocks are often mottled-breasted, or pheasant-breasted, instead of black, and that in the Gingers there are both black-breasted light ginger cocks, and the true light ginger-breasted ginger cocks. The three first-named sorts are much the most common, and the two dark-combed and dark-legged sorts much the rarest.

It will be seen that these birds are of precisely the same colours as the wild Gallus ferrugineus, and only differ from them in their superior size and fierceness; some, however, have been crossed with the Malays, as is evident from their long and clumsy legs, and their approach to the Malay shape and coarse feather. The yellow legs are much the most common with the Indian Game fowls, and legs of other colours than this appear to be rare; in fact, the yellow leg greatly prevails in all tropical poultry, a fact which militates greatly against their originals having been solely a dark or darkish-legged breed, as Gallus ferrugineus minor is described as being. I am convinced that the true original of the tropical breeds of poultry must have been the small Red-Brown yellow-legged breed, rather superior in size to the dark-legged Gallus ferrugineus. I am also convinced that the original of the non-tropical breeds of poultry was a brown or horn-coloured legged breed of Gallus ferrugineus which once extended farther north and west of India in Western Asia, and which has now become extinct in those countries. When they were more thickly wooded and less peopled, it was certainly once to be found there, as well as in the East Indian Peninsula, and to 9° or, perhaps, 10° north of the tropic of Cancer.

In the Black-breasted cocks of both Indian Game and the wild Jungle cock, it is to be observed that the breast is always of a greenish black or black with green reflections, and that the black breast with the bluish tinge, or with blue reflections, is never found in any Indian birds as it is in our own Game fowls, and the bar across the wing is invariably of a metallic green in the Indian breeds, and never steel blue, as often found in our own Game fowls. Many of our Game cocks have, however, the greenish tinge on both wings and breast, as is well known, but the breeds with the bluish-tinged breast and wings are generally considered to be our best Black-breasted Red cocks, which are thus distinguished from and differ from the favourite East Indian colour for the breast and wings; our breeds or strains with the greenish-tinged breasts and wings, thus inclining rather more to the original wild or East Indian type.

The five shades of colour described as belonging to Gallus ferrugineus, and to the East Indian Game breeds are, no doubt, the original and standard colours of our own Game breeds in this country, and all the other different strains and shades of colour found amongst our English Game breeds, have been made by different crosses and mixtures, and by breeding in-and-in from these five colours, two of which the Black-breasted Reds, and the Brown Reds are most common with us.—Trevor.

SPALDING EXHIBITION OF POULTRY, PIGEONS, AND RABBITS.

This year's Exhibition was evidently a great improvement on those preceding it, the arrangements being excellent throughout. The poultry Show was held under a tent, 140 feet long, by 40 feet in width, and the comforts of the poultry could not be better provided for. A floricultural show of very high character was also held in conjunction under a tent of precisely similar dimensions. We refer to the minute particulars as to these tents, as it may prove of interest to many other committees that purpose holding similar meetings. All persons well conversant with the management of such shows, know how ruinous to the exchequer is the occurrence of wet weather, and many an excellent show has been completely ruined by consecutive years of unfavourable weather. It is evident these mishaps may be readily and inexpensively provided against, as we are informed not only this pair of gigantic tents, but also a smaller one for the purposes of the Committee, are provided, erected, and taken down by Mr. Wright, the tent maker, of Peterborough, for an outlay of only £12. This includes all outgoings, for there are "not any extras. *Dorkings* were the first class of this Show, good throughout, but many sadly-diseased feet were to be found amongst otherwise excellent stock. *Game* fowls stood next on the list, and here two pens of the best birds were compulsorily disqualified from the owner transposing either the labels or the birds themselves when transmitting them to Spalding. It is somewhat surprising when old well-practised hands commit this somewhat common blunder, and one which as inevitably brings disappointment in its train. The Game classes were very good, a truly splendid pen of Brown Reds, shown by Mr. Gilliver, taking the Game cup. Mr. Mapplebeck had it all his own way in Buff *Cochins*, and Mr. Stephens was far ahead in the Partridge-coloured variety. The *Spanish* were particularly good, and the prizes were closely contested. In *Brahmas* the majority were shown not in the good feather that could be desired, the best-conditioned being decidedly the Light ones as a whole. The *Hamburghs* were not large entries, but mostly of very excellent character. The *Game Bantams* were a large class of good specimens, but many of them were suffering from over-exhibition. The Black Bantams were capital. *Pigeons*, *Rabbits*, *Canaries*, and fancy living foreign birds, added very much to the attractiveness of this meeting, and, perhaps, there has never in this district been so well selected an Exhibition, or one better supported by the public.

(*From a Correspondent.*)

The *Pigeons* formed a grand feature of the Show, both the Carrier classes being commended by the Judge. The cup was awarded to Mr. Fulton's Black Carrier cock, a bird remarkably good in head and eye, and exhibiting true Carrier style. This well-known exhibitor took the prizes in Pouters and Tumblers, in by no means a poor competition. Barbs, Jacobins, Owls, and Fantails, formed excellent classes.

Cage Birds brought a good entry. Mr. Harrison, formerly a resident in this town, and now an extensive dealer in the west end of London, exhibited cages containing six distinct varieties of foreign birds, winning all the prizes in this class. One cage containing some beautiful specimens, was mounted with two globes of gold fish. Great credit is due for the manner in which these specimens were shown.

Rabbits were not numerous, but very good Lop-eared, Himalayan, and Silver Grey were shown. The class for weight contained some large and heavy animals.

Altogether this, the third Exhibition, was in every way a great success; both exhibitors and visitors owe their thanks to the Hon. Sec., Mr. Cammack, for the very able manner in which he carried out his arrangements.

Dorkings (Any variety).—1 and 2, H. Lingwood, Barking, Needham Market. 3 and *hc*, Mrs. Arkwright, Etwall Hall, Derby (Coloured). *c*, Dr. Campbell, Brentwood (Coloured); Rev. G. Hustler, Stillingfleet Vicarage, York.

Game (Black and other Reds).—1 and Cup, W. Gilliver, Polesworth, Tamworth (Black Red). 2, H. M. Julian, Hull. 3 and *hc*, H. E. Martin, Sculthorpe. *c*, S. Matthew, Stowmarket.

Game (Any other variety).—1, H. M. Julian (Duckwing). 2, W. Gilliver (Piles). 3, S. Matthew (Piles).

Cochins (Buff).—1, Cup, and 2, H. Mapplebeck, Woodfield, Moseley, Birmingham. 3, and *hc*, Henry Lingwood. *c*, R. W. Richardson, Beverley.

Cochins (Any other variety).—1, J. Stephens, Walsall (Partridge). 2, H. J. Godfrey, Hammersmith (Black). 3, G. Shrimpton, Leighton Buzzard (White).

Brahmas (Dark).—1 and Cup, C. Layland, Morris Brook, near Warrington. 2, E. Leech, Rochdale. 3, H. Dowsett, Fleshey, Chelmsford. *c*, Rev. H. Combe, Aylesbury; W. Plowright, Spalding.

Brahmas (Light).—1, H. Dowsett. 2, J. Pares, Postford, Guildford. 3, W. Whitely, Sheffield. *hc*, T. Hardy, Peakhill.

Spanish (Any variety).—1 and 2, T. C & E. Newbitt, Epworth. 3, J. Stephens, Walsall. *hc*, J. Laming, Spalding; A. Cole, Long Sutton (Black); J. F. Dixon, Colgrave, Notts; P. H. Jones, Fulham. *c*, J. Mansell, Longton; H. Hendley.

Hamburghs (Gold-pencilled).—1, J. Laming. 2, W. K. Tickner, Ipswich. 3, T. F. Upsher, jun., Sutton, Cambridgeshire.

Hamburghs (Silver-pencilled).—1, J. Laming. 2, A. Woods, Sefton, Liverpool. 3, G. Clarke.

Hamburghs (Gold-spangled).—1, Miss C. E. Palmer, Lighthorne, Warwick. 2, J. Rollinson, Lindley, near Otley. 3, J. Laming. *hc*, J. Barnes, Spalding. *c*, T. Walker, jun, Denton.

Hamburghs (Silver-spangled).—1 and Cup, J. Laming. 2, T. Walker, jun. 3, J. Tooley, Downham Market. *c*, A. Storrar, Peterborough.

Polands (Any variety).—1 and Cup, J. Laming. 2, W. H. Patrick, Lynn (Gold).

French Fowls (Any variety).—1, H. Wyndham, Beverley. 2, P. H. Jones. 3, W. Tippler, Chelmsford (Houdan).

Any other Distinct Variety not Previously Mentioned.—1, J. Laming. 2, T. Spurr, King's Lynn (Japanese).

Game Bantams.—1 and 2, W. F. Entwisle, Leeds (Black-breasted Red). 3, W. Adams, St. Clements, Ipswich. *hc*, J. Eaton, Farnsfield, Notts (Black-breasted Red); H. Headley; G. Maples, jun, Wavertree. *c*, J. Laming; H. Eggleston, Halifax; J. R. Robinson, Sunderland.

Bantams (Any other variety).—1, A. Storrar, Peterborough (Black). 2, Mrs. Woodcock, Leicester (White Japanese). 3 and *hc*, S. S. Mossop, Long Sutton. *c*, J. Laming; J. H. Dawes (Japanese).

Selling Class (Any variety).—1, R. Clement, Spalding (Black-breasted Red Game). 2, J. Laming (Game). 3, C. W. Gibbs, Sutton Marsh (Golden Hamburghs). *c*, W. Tippler (Buff Cochins).

Ducks (Rouen).—1, E. Leech. 2, T. F. Upsher, jun., Sutton, Cambridgeshire. 3, Withheld.

Ducks (Aylesbury).—1, W. Tippler. 2, W. N. Hunt, Deeping, St. Nicholas.

Ducks (Any other variety).—1, S. & B. Ashton, Mottram (Garganey Teal). 2, R. W. Richardson. 3, Withheld.

FARMYARD.—1, R. W. Smith, Granford, March. 2, R. Webster, Weston, March.
GEESE (Any variety).—1, Rev. G. Hustler. 2, Mrs. Sewell, Pinchbeck.

PIGEONS.

CARRIERS (Any colour).—1, Cup, and 2, R. Fulton, Deptford. Whole class commended.
CARRIERS.—1, R. Fulton. 2, E. Walker. Whole class commended.
POUTERS (Any colour).—1 and 2, R. Fulton. *hc*, P. H. Jones, Fulham; R. Fulton.
POUTERS.—1, 2, and *hc*, R. Fulton.
TUMBLERS (Almond).—1 and 2, R. Fulton.
TUMBLERS (Any other variety, Short-face).—1, 2, and *hc*, R. Fulton (Mottles and Short-face). *c*, P. H. Jones (Kites).
BARBS (Any colour).—1, W. Massey, Spalding (Black). 2 and *hc*, P. H. Jones. *c*, H. Yardley.
JACOBINS (Any colour).—1, J. Hawley, Bingley. 2, T. C. & E. Newbitt.
FANTAILS (Any colour).—1, J Hawley. 2, W. H. Tomlinson, Newark (White). *hc*, H. Sunshall, Fleet Hargate; T. C. & E. Newbitt. *c*, H. Headley.
TURBITS (Any colour).—1, P. H. Jones. 2, H. Yardley.
OWLS (Any colour).—1, J. Fielding, jun., Rochdale. 2, P. H. Jones. *hc*, T. Egglestoo, Halifax.
DRAGOONS (Any colour).—1, J. Hawley. 2, P. H. Jones.
ANY OTHER DISTINCT VARIETY.—1, J. Hawley. 2, W. Woodhonse, West Wioch, Lynn.
SELLING CLASS (Any variety).—1, H. Snushall (Victorias). 2, Hudson and Burnip, Epworth.

CAGE BIRDS.

CANARY (Belgian).—1, E. S. Smith, Boston. 2, Miss E. M. Maples.
CANARY (Norwich).—1, W. Woodhouse. 2, J. W. Harrisoo, Great Portland St., London.
CANARY (Mule).— 1 and 2, W. Woodhouse. *hc*, J. W. Harrison.
LINNET, GOLDFINCH, OR OTHER ENGLISH FINCH.—1, W. Woodhouse (Goldfinch). 2, E. S. Smith, Boston (Goldfinch). *hc*, H. Harvey, Spalding (Bullfinch). *c*, R. Judd (Brown Linnet).
LARK.—1, J. A. Eaves, Skirbeck, Boston. 2, E. S. Smith.
THRUSH.—1, R. D. Borne, jun, Boston. 2, E. S. Smith.
BLACKBIRD.—1, E. S. Smith. 2, R. D. Borne, jun.
PARROT (Grey).—1, P. Goodacre, Boston.
VARIEGATED PARROT, PARAQUETTE, LORRY, OR OTHER FOREIGN BIRD.—1, G. E. Storr, Spalding (King Parrot). 2, T. Goodacre (King Parrot). Extra 2, H. Dodson, Moulton (Australian or Shell Parrots).
BEST COLLECTION OF SMALL BIRDS.—1, 2, and *hc*, J. W. Harrison (Foreign and British Birds).

RABBITS.—*Heaviest.*—1, W. Jeffrey. 2, P. Booth, jun., Spalding. *hc*, T. Mumby, Loog Suttoo. *Lop-eared.*—1, B. Hudson, Hull. 2, A. H. Easten, Hull. *Fancy Variety, except Lop-eared.*—1 and 2, A. H. Easten (Silver-Grey and Himalaya).

The *Poultry* were judged by Edward Hewitt, Esq., of Birmingham, and the *Pigeons*, *Rabbits*, and *Foreign Birds* by Matthew Hedley, Esq., of Claremont, Surrey.

BARNSTAPLE POULTRY SHOW.

THE following is a list of the prizes awarded at this Show, held on June 23rd and 24th.

COCHIN-CHINA.—1, J. Beard, St. Blazey. 2, J. H. Dawes, Moseley Hall *c*, W. L. Trewin, Kilkhampton.
BRAHMAS.—1, L. H. Ricketts, Bemvell. 2, H. Day, Ilfracombe. *c*, S. R Higham, Morehard Bishop.
MALAY OR INDIAN GAME.—1 and 2, H. Darch, Stratton, Cornwall.
GAME (Black-breasted Reds).—1 and 2, Rev. G. S. Cruwys, Cruwys Morchard.
GAME (other Reds).—1, E. C. Pope, Falmouth. 2, J. Westacott, Barnstaple.
GAME (Any other variety).—1, Rev. G. S. Cruwys. 2, Withheld.
DORKINGS (Coloured).—1, G. N. Walsh, Halsden, Dolton. 2, S. Woodman, Barnstap e.
DORKINGS (White).—1, Withheld. 2, Mrs. Hartwell, Pentra.
SPANISH.—1, Tonkin & Tuckey, Bristol. 2, W. Nosworthy, Exeter.
MINORCAS (Red-face).—1, F. Brewer, Lostwithiel. 2, F. Gloyn, Bridgerule. *hc*, H. Leworthy, Newport, Barnstaple.
ANDALUSIAN (Blue, or Blue Pilea).—1, J. Perrien. 2, W. Harper.
ANCONAS.—1 and 2, Miss C. E. Leworthy, Newport, Barnstaple.
FRENCH.—1, J. F. Worth, Washfield. 2, Miss B. W. Baring. *hc*, F. Brewer.
POLANDS.—1, Mrs. E. Procter, Hull. , J. Beard. c, M. A. Sly, Albaston.
HAMBURGHS (Golden-pencilled).—1, H. A. Carvannel, Redruth. 2, S. R. Harris, Cusgarne, St. Days. *hc*, F. Perren, Bristol. *c*, J. H. Nicholls, Lostwithiel; J. Stevens, Bideford.
HAMBURGHS (Silver-pencilled).—1, S. R. Harris. 2, J. Walter, Bideford.
HAMBURGHS (Golden-spangled).—1, J. Medway, Newton Abbot. 2, Miss S. E. Delmar, Trelana, Bude.
HAMBURGHS (Silver-spangled).—1, S. R. Harris. 2, E. C. Pope.
ANY OTHER NEW OR DISTINCT VARIETY EXCEPT BANTAMS.—2, T. Sherston.
GAME BANTAMS.—1, W. Dale Weston-super-Mare. 2, F. Brewer. *hc*, Master Williams.
BANTAMS (Any other variety).—1, Rev. G. S. Cruwys. 2, S. Woodman, Barnstable. *hc*, Rev. G. S. Cruwys. *c*, Tonkin & Tuckey; Rev. G. S. Cruwys; R. L. Hole, Hannaford, Swiabridge.
TURKEYS.—1 and 2, L. Pattoo, Hillmore, Taunton. 3, J. Heal, Parkham.
GUINEA FOWLS.—1, T. Hill, Marwood. 2, H. Adney, Pemberton, Collumpton.
GEESE (Toulouse, Embden, or Farmyard).—1 and 2, J. Heal. 3, H. Adney.
GEESE (Any other variety).—1 and 2, Mrs. Brayley, Swinbridge.
DUCKS (Rouen or Aylesbury).—1, L. H. Ricketts. 2 and 3, L. Patton.
DUCKS (Any other variety).—1, J. Oliver, Bideford.

PIGEONS.

CARRIERS.—1, C. Bulpin, Bridgewater. 2, G. S. Hockey. *hc*, J. Davy, Bideford; G. S. Hockey.
POUTERS.—1 and 2, C. Bulpin.
TUMBLERS (Almond).—1, Master C. W. Bulpin. 2, H. Yardley.
TUMBLERS (Any other variety).—1, Master C. W. Bulpin. 2, W. Westacott, Barnstaple.
BARBS.—1 and *c*, F. L. Smith, Newport. 2, H. Yardley.
JACOBINS.—1, C. W. Bulpin.
OWLS (Foreign).—1, C. Smith. 2, C. Bulpin, Newport.
FANTAILS.—1 and *hc*, Mrs. Bulpin. 2, H. Yardley.
OWLS (English).—1, W. Westacott. 2, Master Bulpin.
TRUMPETERS.—1, Miss F. M. Bulpin. 2, J. A. Sleath, Newport.
TURBITS.—1, H. Yardley. 2, C. Bulpin.
NUNS.—1, C. Bulpin. 2, H. Yardley.
ANY OTHER NEW OR DISTINCT VARIETY.—1, H. Yardley. 2, A. Garnish, Chittlehampton Vicarage. *hc*, Mrs. Bulpin. *c*, E. S. Keall, Ilfracombe.
CAGE BIRDS.—1, N. Robbins (White Mule); Mrs. Petherbridge, Barnstaple (Parrots). 2, J. Galliford, Lake, Tavistock (Lark).

JUDGES.—Dr. Scott, and the Rev. G. F. Hodson.

A LITTLE ADDITIONAL PIGEON LORE.

BEING something of an archæologist, and very much of a Pigeon-fancier, I was particularly interested in the article in last week's Journal, entitled "Poultry and Pigeon Lore," and beg a place for the admission of the following:—The Rev. A. C. Smith, in his ornithology of Wilts, published in "The Wilts Archæological and Natural History Magazine" of May, 1868, states: "There are instances of the lower stage of church towers, immediately below the bells, having been originally built for a columbarium, of which we have one example at Collingbourn, in this county, and probably there may be others of which I am not aware. Another instance occurs at the tower adjoining the ruined chapel of Charter House, Hinton, near Bath, the lower part of which was originally intended for the priest's residence, and the birds dwelt above him. In both these cases the east, north, and west sides are fitted up with Pigeon holes, and a small square opening in the south wall admitted the birds."

Perhaps some of my brother clerical readers may know of other instances; if so, I should be very glad to be informed of them.—WILTSHIRE RECTOR.

MORTALITY AMONG CANARIES.

YOUR correspondents "ONE IN A FIX," and "A SUBSCRIBER" are not alone in their troubles. The bills of mortality in the Canary would only too frequently tell of this species of murrain. There must be a cause for it, finding its origin in the violation of some law, but which nevertheless may still be beyond our knowledge, and consequently beyond our control. It is by no means unusual to hear of an entire stock being almost annihilated. When I first began to breed Canaries I put up eight pairs, and at the close of the season I had just three birds. Every old one was dead, and all the young stock except these three, and from no cause which I could in the least degree trace. All died from apparently the same cause, exhibiting the same symptoms, and dropping off slowly, but surely, one by one. The next season, under precisely similar treatment, with the same diet, and in the same room I have reared a great number, nor have I had any recurrence of such a visitation. Should there be, I shall be as powerless under it as "SUBSCRIBER" or "ONE IN A FIX." The farther we depart from Nature, and the more we try to reclaim and tame (I was going to say civilise), and domesticate birds, the more difficult becomes the task; for the more liable we become to exact so mething from them which violates some important condition of their existence, or at least of their health, and we know what inevitably follows.

I can see nothing to find fault with either in the diet described or the general mode of treatment. It is in the main the same as I follow myself, and I do not attribute the loss of a "SUBSCRIBER'S" young ones to any defect in these particulars, but to something radically wrong with the hens—they are the nurses and feeders, and the general management of the young brood devolves upon them. True, the cock bird feeds the young and, as a rule, feeds them well, and goes through a few other motions in his own peculiar, affectionate, clumsy, left-handed way, standing over the young ones with his legs wide-stretched, evidently quite under the impression he is keeping them warm and doing something very clever; but it is the hen who determines when they shall be fed, or whether they shall be fed at all; she nurses them, and attends to their little wants, and tucks them up in their warm bed after each meal, while the old cock looks on very patronisingly, as if the whole affair was under his direction; then off he hops to the egg box, and back to his hen, and off to the egg box again, hop, step, and a

jump, like a feeding machine, and the young ones have hardly had time to compose themselves for forty winks after their last meal before the cramming process is repeated. So long as this machinery works well, all goes on well, but if from any cause the hen become sick or out of condition, visible or otherwise, at once the young ones begin to decline; a retrograde movement begins, which most certainly ends in the loss of the whole nest. When a nest of fine, plump, healthy, lusty young birds, such a nest as I cannot describe, but which every breeder full well understands, once begins to lose that appearance (and a practical eye can at once detect it), it is a saving of time, a service to the old birds, and a happy release to the young ones, to nip their necks, unless they can be at once transferred to another more healthy nurse. To the uninitiated this may seem cruel treatment, but in the long run it is the most merciful. The first forty-eight hours of a young bird's life are very important ones, if well fed then you may hope for size and health; but if only nursed in a step-mother sort of way, it never seems to recover the neglect, and at best grows up a dwarf. "Never crow till you are out of the wood." The man who first said that, must have been in the "fancy." It means, Do not count your young birds till they are sitting on the edge of the nest; then do so with fear and trembling, but hold them with a light hand till they are on hard seed. Notice carefully every day if any in the flight cages look puffy, or sit thick. I have called attention to this once before, but some may have overlooked it, and it may be of value just now to know that the best treatment in such cases which arise from a disordered state of the bowels, and digestive apparatus generally, is to administer a good dose of castor oil. I put my stick well down into the bottle to ensure its holding sufficient, and allow the bird to swallow not less than three good drops. Its action is quick and effectual. Put the invalid on ground canary seed, mixed with maw seed, and in place of an emaciated sufferer you will in a few days find him as plump as ever.

"Subscriber" should continue with the Diamond Finch as he has been doing. Nature will, however, do most to assist the bird in getting rid of the swellings.—W. A. Blakston.

NEEDLESS DESTRUCTION OF BEES.

The first week in June we had a small swarm which we lost for that day, but found in another part of the garden the next morning, I hived them and they appear to be doing well. On the 8th we had another small swarm, so I thought I would unite them to the other of the week before, which I did the same evening. All appeared to go on well till Friday the 19th ult., when I saw outside the hive a number of dead bees. On the 20th I raised the hive to examine them, when I found more than half the bees dead on the floor, and those alive all very weak. They had made a considerable quantity of comb which was much discoloured, and in several parts full of either a small white maggot or in others of a dark brown grub. The whole had an unpleasant smell; now, fearing this was the foul brood I have read of, I thought it best to destroy them all, so I poured over them some boiling water and destroyed the hive. Did I do right?—Thomas Comber.

[You did right in uniting the two small swarms, but wrong in destroying them, as they were simply dying of starvation arising from the late unseasonable weather, and might have been saved by a little timely assistance in the shape of food. The maggots and grubs were the brood of the bees, and were doubtless in a perfectly healthy condition.]

HONEY CONSUMED—DRONES.

We have a hive of bees twelve months old. We know that they have swarmed once, and we think they have swarmed twice. A few days ago the outside comb next the glass window was full of honey and sealed over; it is now all gone, and the hive appears to be three-parts full of drones. Is there any means to destroy a portion of them? They appear to be so strong in numbers that they will consume all the honey.—W. Strettle.

[When bees swarm they always fill themselves with honey, and this has, doubtless, had more to do with the rapid consumption of honey than the presence of drones, although the latter are unquestionably good feeders. The workers will soon expel them when their office is accomplished and the young queen begins egg-laying, and you had better leave it to them.]

OUR LETTER BOX.

Food for Fowls (*A. B. C.*).—We have many times tried to explain, and do so again, that we cannot name any quantity of food as sufficient for a number of poultry. It is guided by many things, as, for instance, the nature of the run they use, their condition and health, their breed. You are as well able to form your conclusion as we are to advise you. Feed them by hand, and with measured food. Keep account of the consumption, and after one week you will be able to judge for yourself. If they are in bad condition when you begin, they will consume more at first, as they have to make up condition, after this is accomplished there should be little variation. A grass run is one-third food, and with Geese one-half. Ducks and Geese do best on oats. Fowls want ground oats and barley, varied at times with whole corn and maize.

"Poultry-keeping for Profit—Gapes (*H. J. C.*).—As you speak of the market, we presume you mean to breed for the table. In such a situation as you describe, we should advise you to keep Brahma Pootras. They are hardy and profitable. No really adult fowls lay in the winter months. To ensure eggs during December and the following two months, you must keep early pullets of the previous spring. Most fowls prefer to roost in trees, and during the summer they do, we think, better there than elsewhere. In the winter the house is better and safer for them. Grass is a far better run than gravel, and in an orchard you will find the hens clever at making dusting places round the stems of the trees. Gapes are cured by giving one or two pills of camphor the size of a pea, and by giving them strongly camphorated water to drink.

Eggs Unproductive (*H. B.*).—It is so manifestly against the interest of those who make egg-dealing a profit to send out stale eggs, or those about which they have any doubt, that we should not think either of the persons you mention would do so. We think you might fairly appeal to both of them. We are disposed to doubt the close sitting of the hens; had they done so, the eggs being damped should have produced all the chickens and ducklings, if not at once, certainly within a few hours of each other. It is not necessary to damp the eggs at first, but for ten or twelve days before hatching; and we think the exit of the chickens is facilitated by the eggs being left in warm water for ten minutes when they are tried a day or two before they are expected to hatch.

Game Bantams at the Thorne Show.—We are informed that Mr. J. Crosland, jun., won the cup as well as the first prize.

Lice on Poultry (*W. W.*).—Dust flowers of sulphur under their feathers, so as to reach the skins of the fowls. Mix flowers of sulphur plentifully in the dust heap where they bask. Let the nests be made of fine deal shavings, and let the young chickens rest at night upon the same kind of shavings. The vapour of turpentine from the shavings is fatal to lice.

Ducks Suffering from Cramp (*Henwife*).—We fear you have a bad case. All you can do is to shut them in a dry place, the floor covered with dry straw, and feed on oatmeal put in a shallow vessel with sods of growing grass and some gravel. It is more than probable the Duck has had her liberty, and has dragged them through the grass when covered with dew or white frost. They should not be out till the sun is up and the grass dry.

White Musk Ducks—White Spanish Geese (*R. P.*).—The White Musk Duck is scarce, but seldom wanted. White Spanish Geese are only ornamental.

Weight of Aylesbury Ducks (*J. S.*).—With few and rare exceptions, 8 lbs. form the present limit of weight for Aylesbury Ducks. There have been rare exceptions where they have, when prepared for exhibition, weighed 10 lbs. If we are to understand you mean that when killed they are to be fit for food, then we say 9 lbs. are an unattainable weight. This is the result of especial feeding with a view to produce weight; or of extreme fat, the consequence of old age. In either case, the bird is unfit for food. A few years since 9 lbs. were the average weight of Geese, they are so no longer. We commonly have them 15 lbs. or 16 lbs. We have weighed this morning six unusually fat and fine young Ducks, as fine and large as we ever obtained, two weighed 5¼ lbs. each, two 5 lbs. each, and two 4½ lbs each. It is difficult to obtain them so heavy while they are young and tender. Four pounds would be a large average.

Tumbler Pigeons (*A Young Tumbler Fancier*).—Almost every dealer has "Feather-footed Tumbler Pigeons," now called by them Birmingham Rollers. Choice kinds could be easily obtained by advertising in our columns, by which plan (far easier than by guessing), you could obtain the "Chequered Blue Tumblers, and Barred Blues," which you require. It is certainly best not to keep common birds with flying Tumblers, they bring them down in flight, and injure their tumbling by so doing. Do not cross the common birds with Tumblers Old-established breeds, such as Tumblers, have been raised by care and pains, and it is not well to spoil them, but it is best to preserve them carefully from an admixture of common blood.

Pheasants Suffering from Cramp (*S. B.*).—Nothing is so good as grass to pen hens and Pheasant poults upon, but it should be cut short in the spots where they are put. When many Pheasants are reared, a field should be chosen slightly on the descent, and covered with long grass, but not thick at bottom. This should be cut in squares like a chess-board, the mown parts being for the hens in rips, and the covered parts for shelter for the poults. They also find much food in it. It affords them a shelter from mid-day heat, which is often fatal to them. Stale bread soaked in strong ale is the best cure for cramp.

Rabbits (*Neptune*).—The doe, whose young ones have been destroyed, may be placed along with the buck now.

Gooseberry and Grape Tart.—A lady writes to us that "Green Gooseberries mixed with the thinnings of the green Grape, sweetened with pounded white sugar, make an excellent and agreeably flavoured tart."

Brittany Cows.—"In reply to 'A Subscriber,' these cows are said to be kept for less than any other variety, and in proportion to their size, give richer and more milk. I have not had mine long enough to give a decided opinion, but some of my friends speak highly of them. Your correspondent can purchase them from an importer Mr. Parsons, Yew Tree Cottage, Southgate Road, Winchester, where I purchased mine.—J. W."

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 8—15, 1869.	Average Temperature near London.			Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
8	Th	Horncastle Horticultural Show.	73.8	50.0	61.9	21	55 af 3	15 af 8	57 af 2	11 af 7	28	4 45	189
9	F	Birmingham Rose Show opens.	73.9	49.5	61.7	18	56 3	14 8	50 3	7 8	●	4 54	190
10	S	Birmingham Rose Show closes.	74.6	50.2	62.4	16	57 3	14 8	56 4	54 8	1	5 3	191
11	Sun	7 Sunday after Trinity.	75.2	50.5	62.8	10	58 3	13 8	8 6	33 9	2	5 11	192
12	M		75.8	50.4	63.1	13	59 3	12 8	27 7	8 10	3	5 19	193
13	Tu		75.9	51.4	63.6	15	0 4	11 8	46 8	36 10	4	5 26	194
14	W	Loughborough Horticultural Show.	74.2	50.4	62.3	15	1 4	10 8	5 10	2 11	5	5 33	195

From observations taken near London during the last forty-two years, the average day temperature of the week is 74·8°; and its night temperature 50.3°. The greatest heat was 93½°, on the 14th, 1847; and the lowest cold 33°, on the 9th, 1863. The greatest fall of rain was 1.10 inch.

DINNER-TABLE DECORATIONS.

AMONGST the many subjects which present themselves to the gardener in the fulfilment of his duties, the arrangement of the dessert and the decoration of the dinner-table, so far as they are in connection with his department, occupy an important position. During the last few years this subject has increased in importance, owing to *diners a la Russe* having become so fashionable. Generally where this fashion prevails pot plants predominate as ornaments for the dinner-table. These, if properly grown, answer very well, but I do not think them so suitable as cut flowers skilfully arranged: but if these are scarce, or their arrangement is not thoroughly understood, then it would be better to employ plants. The characteristics of plants for this purpose should be elegance and lightness, such as we find in ornamental-foliaged plants, as Dracæna terminalis or Dactylis glomerata variegata; and, among flowering plants, in Fuchsias or small-leaved Begonias. A heavy dwarf plant rarely looks well on the dinner-table—I allude to such plants as the large-foliaged Begonias, Gymnostachyum Pearcei, or Fittonia argyroneura; these plants and many others like them, although undoubtedly presenting a novel and beautiful appearance, yet are, I think, much better adapted for the decoration of the conservatory or vestibule. Of course there are exceptions to this rule as to all others. For instance, a Gloxinia amongst stove plants, and a large-flowered or Fancy Pelargonium amongst greenhouse plants, though dwarf, are yet rendered so bright and cheerful by their abundant blossoms that they may well form exceptions; and, again, if during the winter months one or two plants of that lovely stove climber Thunbergia Harrisii be introduced, they are quite certain to be admired. To have neat little half-specimens of this plant in bloom in 6 or 8-inch pots during winter, cuttings should be taken early in May, and grown throughout the summer and autumn in rich sandy loam containing a slight admixture of charcoal.

Whether plants are constantly required for the dinner-table or only for a definite period, as much variety should be secured as possible, and a considerable space of time should intervene between the first and second appearance on the table of the same plants; then, again, fine-foliaged plants should alternate with plants in bloom. I have known great annoyance given by a constant succession being kept up, night after night, of ornamental-foliaged plants, such as Begonias, Caladiums, Dracænas, and Crotons; always a fresh variety, but foliage, ever foliage. Now this was certainly a mistake, unless there had been an expressed wish; for, however rich and varied may be the colour, and however singular the variegation of the foliage, yet leaves must ever give place to those lovely tints and that delicate freshness which are the peculiar properties of blossom.

Crotons and all other fine-foliaged plants possessing yellow leaf-markings should be rarely introduced, as they never "light up" well, however beautiful they may be when seen by daylight; the yellow variegation, which is their chief beauty, loses so much of its richness by lamplight as to cause the entire plant to appear very insipid. Pink, on the contrary, acquires a deeper hue and richer charm from artificial light. I know no plant so charming, when seen in this way, as a deep pink Primula sinensis; its cheerful blossoms coming to us during the dullest season of the year ever receive our warmest welcome, but it is at night that they appear to partake of the greater sociability of humanity which is inspired by the exclusion of the external cold, by the drawn curtains, and the glowing fire; then they offer themselves to our gaze with a warmth and richness of colour which render them most attractive.

Plants, then, it must be granted, possess many advantages over cut flowers for dinner-table decoration, yet for the centre of the table nothing, in my opinion, can equal in appearance an epergne dressed with choice cut flowers and foliage, with the occasional addition of a few carefully selected examples of fruit. I have also seen small epergnes containing nothing more than Black and White Grapes, skilfully intermixed with Vine leaves and tendrils, which had a very good effect. Vases of cut flowers for this purpose are always appreciated, if they are suitable in design and size.

In setting up the fruit, if flowers are used, the simplest and most effective method is to arrange the latter in the form of a wreath. These wreaths should be just visible over the edges of the dishes, and rest lightly and gracefully against the lowest tier of fruit. A good wreath for a dish of dark-coloured fruit is formed of shoots of Cerastium tomentosum with single flowers of Campanula, used in just sufficient quantity to relieve the sameness of the grey; fresh young shoots of variegated Pelargonium Dandy, intermixed with either pink or blue blossom, are also good; and small leaves or shoots of Pelargonium Italia Unita form a lovely wreath. For fruit of a lighter colour, shoots of Begonia fuchsioides interspersed with its unopened heart-shaped blossoms form a good wreath. Then, again, small fronds of Maiden-hair Fern, with the deep crimson flowers or seed-vessels of Chenopodium atriplicis are very beautiful.

Although I have thus enumerated a few suitable wreaths, yet the plants offering materials for this purpose are so numerous as to render it useless to endeavour to form any regular list. Each season of the year, in fact, offers materials for wreaths peculiar to itself; for instance, early in spring, how chaste and elegant is a wreath of the fresh young shoots of the common Laurel regularly interspersed with its pure white blossoms! or a wreath of the foliage and blossom of any of the Myosotis family, or the tips of the young shoots of the Spruce Fir, dotted with the pink blossoms of the Larch. All such materials are of the simplest description, hence their suitability for the purpose.

One other point must be remembered, which is, that no flowers possessing the slightest offensive odour should be used, for no matter however well adapted they may otherwise be, yet should they impart the slightest un-

pleasantness to the flavour of the fruit they will only tend to mar the enjoyment of those for whose pleasure they were provided.—Edward Luckhurst, *Egerton House Gardens, Kent.*

JUSTICIA SPECIOSA CULTURE.

When well-grown, this is a fine showy plant for decorative purposes. By pinching at regular intervals, it assumes a sturdy and compact habit of growth, and when placed in the most favourable position during growth, and in suitable soil, its foliage becomes large, and of a rather dark green, which sets off to advantage the numerous purplish flowers.

Being a native of the East Indies, the plant requires heat to grow it to perfection; but in this respect it is very accommodating, for it will thrive in a much milder temperature than many cultivators give it—indeed, the strong heat in which it is generally kept is, in my opinion, one of the errors which are committed in its culture, for when so treated the plant is slender-stemmed, long-jointed, and produces few flowers, which last only a short time; indeed, under such treatment it is anything but the beautiful and continuous-flowering plant it is when grown under the system which I shall describe.

The principal time for the plant's flowering is stated in the "Cottage Gardeners' Dictionary" to be the month of August; but I am in the habit of growing it for conservatory decoration, and of having it in bloom in the winter months. For this purpose I insert the cuttings in sandy soil in heat during the first week in May; when struck, I select the best and pot them off in large 60-sized pots, using at this early stage a soil of moderate richness, such as turfy loam (not light), and leaf mould, with a little sand. After a few days take the top out of every shoot, and when they break again they will require a further shift into 6-inch pots. From the time the cuttings are put in, up to this stage, they should have a regular heat of 60°, plenty of moisture at the roots and in the atmosphere, and plenty of light; shading, however, from very bright sun.

After the young plants have become established they may with advantage be transferred to more airy quarters, where they will have plenty of light as before; but instead of using fire heat, unless the weather is unseasonable, they will do much better if the house or pit be shut up early to secure sun heat. Syringe copiously, stop the shoots as required—every one, large or small. This insures more perfect blooming. Shift the plants this time into pots of the next larger size, using stronger and richer soil; and as the Justicia is a vigorous-rooting plant, it must have plenty of moisture, consequently plenty of drainage. Shift the plants again when necessary into 9-inch pots, stop them once afterwards; then they may be allowed to grow at will, complete their growth, and form their flower buds. While these are becoming developed, gradually give more air, which will so far harden the plants as to enable them to flower in perfection in the more intermediate temperature of the conservatory.

Under the above treatment the plants will generally be about 2½ feet high, and 18 inches in diameter; but if taller plants are wanted they may be grown in stronger heat and pinched less frequently; still, as before stated, such treatment shortens the period of flowering, and deteriorates the value of the flowers for cutting purposes.

After the flowering is over I make it a rule to reduce my stock to two or three plants, which are kept in a rather dry state in the greenhouse through the winter, until wanted to supply cuttings in the spring, when they are cut back and placed in heat. Many cultivators keep their whole stock through the winter, shake the plants out in the spring, cut them back, start them into growth, and shift into larger pots as necessary; but as the Justicias are vigorous-growing, where room is at all valuable, the treatment I first described is preferable.—Thomas Record.

CHRYSOBACTRON HOOKERI.

This member of the Asphodeleæ was introduced into this country in 1848. It was discovered by Mr. Bidwell in rich marshy districts about Wairu, Middle Island, New Zealand. "It grows," said Mr. Colenso, who also discovered it, "in great clumps in boggy places, and is said to cover the plain with a sheet of yellow when in bloom. Some of the masses are 3 feet in diameter." It is figured in the "Botanical Magazine," t. 4602, and is there stated to have been kept at Kew in a cool frame. Probably from being treated too tenderly it was destroyed, for we believe it is no longer in the gardens. It is now called by some botanists Anthericum Hookeri. We are glad to find that it has been re-introduced, for we have received a specimen in flower from Mr. A. Storrie, Whiteinch Nursery, Partick, Glasgow.

He describes it as a hardy herbaceous plant, adding, "I have several plants at present in bloom, and it is thought by some a great acquisition. One plant planted-out two years ago has twenty-six spikes of flowers. The leaves attain 18 inches in length, and the flower-scape 1½ to 2½ feet, or even 3 feet, in height."

ZINC EDGE FOR FLOWER BEDS ON GRASS.

Graceful curvilinear beds on lawns are after a time often much distorted in consequence of the encroachment of the grass round their edges, and without much care in cutting it is almost impossible to keep the original design. I have, therefore, much pleasure in laying before your readers a simple plan to remedy this, and to effect a saving of labour. The thought struck me that some kind of metallic lining would answer the purpose, and about twelve months ago I tried the experiment in my home garden, the result of which is very satisfactory.

The following are the instructions:—Edge round your flower beds with a perfectly even upright cut in the grass, 2 inches deep, and let into this cut a strip of stout zinc of the same depth, bending and fitting it exactly to the shape of the bed on a level with the surrounding grass. To keep the zinc firmly in its place, drive down some small, square, red deal pegs, about a foot apart, making them low enough for the tops to be covered by the soil of the bed. With a little brown paint brush the zinc edge, which should be left 1 inch deep after the soil is replaced. The shape is thus accurately and permanently preserved.

These strips might be painted and sanded on one side before they are put down. They cost about three farthings per foot run, and are cut from 8-feet sheets of zinc of No. 12 thickness. The mowing machine will cut over this edge, and the stray blades of grass that escape can be easily clipped off, so that even a lady gardener with a pair of scissors may keep the edges of her beautiful scrollwork parterres in perfect order.—Henry Curtis, *Devon Rosery, Torquay.*

VICOMTESSE HÉRICART DE THURY STRAWBERRY.

If I were to be asked which is the best Strawberry for general use, I would unhesitatingly name the above. Out of a collection of upwards of five hundred varieties which I have grown and fruited during the last ten years, there is none, not one, to equal this, by far the most useful Strawberry in cultivation. It is surpassed by some in point of size—it is not a monster—by others in point of flavour—it is not a Queen; it is, however, extremely pleasant, and like the Black Hamburgh among Grapes, the most refreshing of all. A few Muscats cloy our palates, a few British Queens satiate us; we come back as to a well of pure water after a feast of wine, to the Hamburgh in the one case, and to the Vicomtesse Héricart de Thury in the other.

The Vicomtesse Héricart de Thury Strawberry is a most extraordinary bearer, the crop produced from a certain number of plants being something enormous. Although few of the fruits exceed the medium size, they are nearly all of good size, and gathering after gathering may be taken, the last almost equal to the first. There is no other Strawberry from which so many dishes of good uniform fruit can be taken as this. It is very unlike Keens' Seedling and many others in that respect, as from these, as is well known, after the first picking the rest are all "chats." Yet even the small fruits of this variety are prized and welcome. To use a Covent Garden expression, "the colour sells it." It is of the brightest and clearest scarlet, and very pleasing in appearance. Through its brightness and fresh appearance it is selected and preferred to others greatly exceeding it in size. This I have often observed in my experience of selling a mixed collection of Strawberries. The surface of the fruit is firm, so that it does not bruise readily; it is an excellent sort for packing and sending to a distance, being as fresh at the end of a day's journey as if newly gathered. This is a great quality in Strawberries, too often overlooked by the introducers of new varieties. Besides its high qualities as

a dessert fruit, it is also one of the finest varieties for preserving purposes, the flesh being of a fine reddish tinge. It also forces well.

In constitution this Strawberry is one of the hardiest and most vigorous, accommodating itself to almost every soil and situation, and rarely, very rarely, being injured by frosts or wet. Its foliage, indeed, remains pure and green throughout the most severe winter; it might be called the evergreen Strawberry. It is on that account very suitable and ornamental as an edging Strawberry in the kitchen garden. It is long-lived, although, as with all other Strawberries, the best fruits are produced on young and vigorous plants. This will continue in bearing on the same plants for many years in succession, longer than any other Strawberry.

In point of earliness, it is a day or two in advance of Keens' Seedling, and continues in bearing a week later than that variety. In form the fruits are generally conical, the largest being cockscomb-shaped.

The Vicomtesse Héricart de Thury is not a new variety. It was brought to this country from the neighbourhood of Paris, where it is esteemed over all other varieties, by Mr. R. Thompson, of Chiswick, many years ago. It has been distributed throughout the country a little, yet through not being directly the property of some pushing nurseryman, it has never obtained that publicity or notice which it would otherwise have done. I have myself sent it to all parts of the kingdom—to the north of Scotland, to Aberdeen, to Yorkshire, to North and South Wales, to Kent and Sussex, and from every quarter the report is the same—"The Vicomtesse Héricart de Thury is the best Strawberry we have." A further proof of its good qualities is its number of synonymes—viz., Duchesse de Trévise, Prince Imperial, Marquise de la Tour Maubourg, &c.—ARCHAMBAUD.

NEW ROSES AT THE ROYAL HORTICULTURAL SOCIETY'S SHOW.

ALTHOUGH I have headed this paper thus, and shall in the main confine myself to my text, yet I should like at the same time to take a little wider range, and include within it, as far as I can, my judgment on the new Roses of 1867 and 1868. I am not likely to see any more of the Hybrid Perpetuals (the Teas I shall reserve for another opportunity), this season, and be it remembered I only give my judgment on what I have seen. I take no *ipse dixit* of anyone, however clever and disinterested he may be. I ask no one to agree with me. I have my own ideas of beauty, and of what constitutes a good Rose; they may be false ones. My Vanessa may be no Vanessa to my neighbour Smith, but that does not prove Smith to be wrong; it only shows that he and I do not think alike.

There were four stands of Roses exhibited in the class for varieties of 1867 and 1868. The exhibitors were Messrs. G. Paul & Son, Mr. Keynes, Mr. Cant, and Mr. Turner. Instead, however, of particularising each stand by name, I shall just take out the names of the new Roses, first of 1867, and then of 1868. *Seniores priores*—so here are those of the former year: President Willermoz, Impératrice Charlotte, Reine du Midi, Clotilde Rolland, Madame Rolland, Reine du Portugal (Tea), La France, Enfant d'Ameugny, Christine Nilsson, Elie Morel, Ernest Boncenne, Duchesse d'Aoste, Baronne de Rothschild, Prince Humbert, Madame Luizet (Bourbon), Madame Grondier, Pitord, Lisette de Béranger, Madame Adèle Huzard, Charles Turner, Docteur Hurta, Madame Marie Cirodde, Vicomtesse de Vesins, Barillet-Deschamps, Madame Noman, Alice Dureau, and Souvenir de Caillat. Of Roses of 1868 there were exhibited Victor de Bihan, Duke of Edinburgh, Devienne Lamy, Nardy Frères, Adrienne Christophle, Dupuy Jamain, Charles Fontaine, Julie Touvais, Souvenir de Monsieur Poiteau, Alphonse Fontaine, and Marie Ducher (Tea). Of Roses not yet out, and therefore I suppose English seedlings, there were Caroline Hole, Charles Perry, Lord Napier, Seedling No. 2 in Mr. Turner's stand, and Viceroy of Egypt.

It will be hardly necessary for me to go through each and all of these. There are many which I verily believe we shall never see much of, and some which I am sure are the very best of this year were not there at all, being, as I shrewdly suspect, strongly attacked by the budding-knife. Thyra Hammerick, which is a lovely Rose, Marquise de Mortemart, Madame Creyton, and Reine Blanche, were not exhibited in these stands, but I believe they will be found in many a winning one in another year.

I have little to add to my former observations on the Roses of 1867 at the Crystal Palace, and should hardly be inclined to add to the list I have already given. As to the Roses of 1868, in addition to those mentioned in that report, I should be inclined to give a trial to Dupuy Jamain, a large and well-formed flower, to Charles Fontaine, a deep crimson flower, shaded with scarlet, and Victor de Bihan, brilliant carmine; while Duke of Edinburgh has established its claim to be considered one of the very best dark Roses that we have.

With regard to the Roses not yet sent out, Viceroy of Egypt is simply Général Jacqueminot over again, and if exhibited with that name would, I am sure, pass muster with the judges. Lord Napier is a richly-coloured Rose, and Charles Perry is a promising flower.

Of other Roses which I have seen, I do not think much of Minerve, Adrien de Montebello, or Perfection de Lyon. Should I have an opportunity of seeing any other, I shall not fail to notice them in the Journal. There is little doubt, I fancy, that we are gradually obtaining larger and finer Roses; and although many still hold their ground, yet, probably, we shall each year see some fresh one taking the place heretofore claimed by older favourites. How seldom Général Jacqueminot appears now! although three or four years it was in every stand; Senateur Vaisse has succumbed mainly to Madame Victor Verdier; La Reine is nowhere, and so it will be with many others. We think now they cannot be beaten, by-and-by we shall wonder that we ever thought so.—D., *Deal*.

HARDY CLIMBERS AND OTHER PLANTS FOR WALLS.

ALMOST every garden has its iron or wood trellis, pillars, arches, ornamental or rustic wood and ironwork, which in most instances it is desirable to cover with climbers. There are arcade fronts, arbours, bowers, stumps and trunks of old trees—some objects pretty in themselves, which it is considered in good taste to enrich with lively beauty, and other subjects objectionable, which when clothed with foliage and flowers become ornamental. Walls too high or too low, sunny or shaded, never look so well as when so adorned.

It is not always advisable to cover with climbing or other plants every surface suitable for their training and successful growth; and in the case of buildings it is not judicious to train plants over an architectural mansion—its principal parts, perhaps no part, ought to be planted against, for as a work of art it should be seen in all its details. Buildings which have many enrichments should not have these covered, though it may be advisable to clothe the intervening spaces with foliage; and in the case of brick buildings with stone dressings, the plants ought to be confined to the brick portion only, and they should only be taken up the height of the stonework, and not so as to cross it with the view of covering the upper part of the building. The plinth, too, if of stone, ought not to be hidden, but the stems of the plants made to cross it in the angles, or in the least objectionable manner. A well-designed, well-built mansion needs no plant ornamentation. There is such an objection to covering architectural buildings, that it ought not to be done without an architect's advice; but there are some buildings so mixed in character, and so inartistic, that it is desirable to cover them with foliage. Plain buildings, especially if low, may, as a rule, be clothed with plants, as these give an appearance of height, or prevent the want of elevation in the building from being so much noticed. Nothing, however, is so incongruous as to have tall and low-growing plants on the same surface. They must all attain one height, and be kept to that by pruning. I do not think they look well trained higher than the first-floor window-sills, or if there be a string course, they should be kept under it; but if they are taken higher then they should not stop until the cornice or projecting roof is reached, but of that they should be kept clear, the whole wall being covered equally to one height.

In garden architecture there are many surfaces suitable for the training of plants. Walls built for division, or for affording shelter, when unplanted are cold and wearying to the eye, but become cheering when covered with plants. Besides walls, there are buildings which present surfaces with different aspects suitable for plants, some admirably suited for a class of shrubs whose flowers are handsome and desirable for bouquets, &c., and which cannot be depended on from plants in the open ground. Even the low walls of greenhouses or other plant houses are rendered less cool and uninviting when clothed with either foliage or bloom. Nothing in my opinion is so

ugly as a bare wall; it offers nothing which can interest, and a badly-covered wall is not much better.

Another great defect is that of employing plants without paying any regard to the character of the building, for as buildings vary, so ought the subjects; for instance, a building constructed of light-coloured materials will be subdued or toned down by planting subjects with bright green foliage and red-coloured flowers, as Roses, or such evergreens as Escallonias, not seeking too great a contrast like that which would result from a close and heavy mantling of Pyracantha, or Ivy. Massive buildings should be covered with close-growing, heavy-foliaged evergreens, as Pyracantha, Ivy, Magnolia, &c., whilst a light and elegant structure should be clothed with plants like the Clematises and Honeysuckles, introducing a few evergreens for winter effect.

Some persons object to climbers and plants against buildings on account of their making the walls damp. How far that opinion may be correct I cannot say. I am aware that plants covering a wall will shade, and to a great extent deprive it of heat and air; it will be covered with moss sooner than one exposed to the sun's action, but that is because it is shaded, and not because the plants make it moist. I am of opinion that they would tend to make a wall dry rather than damp. The only way in which I think the walls are rendered damp, is by their not being cut off at or a little above the ground line from damp ascending from the soil, and with plants this dampness will be increased by placing soil close to the wall instead of the loose rubbish from the building. From the watering of the plants, too, there will be more dampness than if there were no plants. That, however, shows not that plants make walls damp, but injudicious building, for all buildings ought to have the ascent of damp from the ground cut off by a layer of asphalt as high, if not higher, than the ground level, and above that the border for the plants should not be raised. I have seen the ground outside taken above the line of the asphalt or cement, and the walls made wet in consequence for several feet up. If the ascent of damp from the ground be cut off, and the soil not taken above the point at which it is cut off, no one will have need to complain of climbers making walls damp.

A proper border must be made for the plants. It is useless to plant them against a wall, if for a considerable depth and distance there is nothing but rubble. It ought to be removed, and proper soil put in to the extent of at least a yard from the wall, and to the same depth, placing in the bottom about 6 inches of rubble for drainage, and then a layer of turf or the rougher parts of the compost. The latter must vary somewhat in its composition, but most climbers will succeed in two-fifths of turf cut about 3 inches thick from a pasture where the soil is a rich loam, neither heavy nor light; one-fifth short manure, as that from a Mushroom-bed, or the fresh droppings from a stable, as free of straw as possible; one-fifth leaf mould, and one-fifth sharp sand. The turf should be chopped up rather small, and all the materials well blended together. The border should be formed of this compost, using the materials fresh, without laying them in a heap to decay, but the upper part of the border should be of finer soil to the depth of about 6 inches. The compost just described, laid up for three months, would be suitable for the purpose, chopping it up and making it rather fine. It would not grow all climbers, for it would be too rich for some, and too open for others, and not properly constituted for a few; but it can be made lighter by adding sand, omitting some of the ingredients, and replacing with others of a suitable nature, as will be stated hereafter.

Not only should proper soil be provided for the plants to grow in, but it should be in quantity sufficient to support the plants to full size. The width and depth named, 3 feet, will, in most cases be sufficient, but there will be cases in which a greater quantity of soil must be supplied for the roots. For instance, if the soil is wholly unsuitable, it should be taken out twice the width, and replaced with fresh. In some positions the plants have to be planted under gravel walks; then the soil ought to be taken out, proper provision made for the roots, and when the plants are put in, the gravel can be returned. The same remarks apply to places which are grassed over, and due regard must be paid to furnishing the plants with proper soil, and the grass should not be placed close to the stem, but an opening must be left all round.

There are soils which will only need to be trenched, working in enriching material, such as dung or leaf mould; and where it is a good loam, it will be sufficient to trench it 2 feet deep, and mix it with manure, or add the kind of soil required by the plant. The better the provision made for planting, the more the plants will be likely to succeed, and the sooner will the object sought to be covered be hidden; indeed, no plant ought to be planted-out without making good provision for the roots, for it is important that the plants root well, and if they do that they will be sure to grow well. Even the commonest should have the soil loosened, and be planted in some good soil, and any additional care taken at planting will be amply repaid.

As respects the time of planting climbers and subjects of a similar description, as they are mostly grown in pots, planting may be performed at any season, but best when they are about to commence growth, or in March, or earlier, according to the season. It is best to plant them out before they have grown much, and still better if they have not grown at all. The roots should be spread out, the soil shaken from them without injuring the fibres, and a good watering given at planting, and afterwards in dry weather, so as to promote free growth.—G. Abbey.

(To be continued.)

FRUIT PROSPECTS IN YORKSHIRE.

Our fruit crop, in this neighbourhood at least, is anything but cheering. I thought at the time of blooming that nothing could be more promising; but it has been decreed otherwise, and we submit, though with a feeling of regret.

Apricots, Peaches, and Nectarines for the most part have fallen; Plums and Cherries are but a mere scattering; Pears have mostly fallen, and are still falling; Apples are very scarce indeed, and what is worse, many of the trees are suffering from caterpillars which are very numerous this season. The prevalence of blight and mildew does not augur well for another year. Filberts are very scarce; Figs and Walnuts are good; Gooseberries in some places are a fair crop, but sadly pestered with caterpillars. With us they are moderately abundant. Black Currants were very promising, but much of the best fruit has fallen. Red and White Currants were abundant, but what we call "honeyfall," came upon the trees. They had at first the appearance of being glazed over with gum; then came insects, then mildew, after which the leaves began to fall, and were followed by the fruit. What is left I fear will do little good. Raspberries up to the present time are very promising; Strawberries with us, as in many other places, are a failure. Some of the plants are suffering from mildew. Thus our fruit prospect for the present is only a gloomy one.—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

THE GARDENS AT RED LODGE, NEAR SOUTHAMPTON,

THE RESIDENCE OF MRS. PEARCE.

Many very handsome villas have within the last twelve or sixteen years sprung up at the top of the rising ground above this splendid approach to Southampton, upon what was formerly only a waste densely covered with heath and furze. If a pleasing situation, giving great facilities for drainage, and the enjoyment of pure air, be considerations in choosing a residence, all these are secured here. Upon this plateau is the house of Mrs. Pearce. It stands apart, at the meeting of the roads, close to the Red Lodge Nursery of Mr. Rogers. A hedge divides her grounds from the nursery on the south, and the road to Shirley passes in front of her garden. There is often as much, if not more, landscape beauty in the scenery of the banks of a small river than in the vicinity of large rivers, of which the waters are frequently muddy and sluggish.

Although the garden is not large, it is kept in a very creditable condition, and there is a pleasing piece of lawn in front of the house about an acre in extent, whilst opposite the drawing-room windows is a small but well-filled flower garden. Adjoining the house is a small conservatory always kept gay. Leading west from the front is a gravel walk skirting the little paddock on one side; and on the other side there is a border planted with choice Rhododendrons and Roses, with some rows of mixed Tricolor Pelargoniums in front. Further on the walk crosses another walk, and here it is bordered with Rhododendrons, with standard Roses in front of them; and nearer the walk, at intervals of 3 or 4 yards, of strong plants of two common sorts of China Roses, with shoots from 3 to 4 feet long falling partially out on every side. These Roses and the various-coloured Snap-

dragons give a charming appearance, especially where backed up, as here, with Rhododendrons. To fill up the ground Mr. Kerr has a variety of the best annuals among the Roses.

The stove and Orchid houses, however, are the prominent attractions of this pleasing residence. I will here note a few of the plants I saw in the houses during a recent visit; and I may state that Mrs. Pearce feels a pleasure in allowing those interested to inspect her Orchids, of which no other such collection is anywhere in the neighbourhood of Southampton.

One small house is filled with Caladiums. These Caladiums at once show how highly they are valued here, and that Mr. Kerr understands their cultivation. I noticed the following:—C. Chantinii, a large plant, about 6 feet in diameter, some of its leaves being nearly 2 feet long by 18 inches wide; C. Wightii, of similar dimensions, only the leaves not so large; C. Brongnisarti, as large; C. bicolor splendens, 4 feet in diameter; C. marmoratum, with very dark green foliage mottled with lightish blotches; C. pœcile; C. argyrites, prettily mottled with white upon a green ground; C. Belleymei, very effective, almost white leaves with green veins and margin. There are several others, most of them very large plants.

The Orchid house is not very large, but filled with good plants in excellent condition, and many of them producing a remarkable display of bloom, both as regards the length of the spikes and the number of flowers upon each. I will here only note a few of them—viz., Lælia purpurata, two spikes, with nine flowers, large and fully developed; Saccolabium retusum, beautiful; Oncidium roseum, with six spikes full of flowers; Phalænopsis grandiflora, with two spikes 3 feet long, three times branched, and having twenty-four blooms—the same spikes flowered in the end of last summer; some Aërides in fine bloom; Miltonia spectabilis coming into flower, with fourteen spikes; of Cattleya lobata upwards of a dozen large plants; Brassavola Dighyana; handsome plants of Cattleya Mossiæ Pearcei, a very handsome variety; Brassia verrucosa with twelve spikes, occupying a low basket 3 feet square, the flowers with long spider-like segments, 8 or 9 inches across; Miltonia Moreliana, growing in a broad basket 2 feet 6 inches square, a fine plant with twelve spikes of dark bronzed-purple flowers; Oncidium Cavendishianum, throwing noble spikes; Cattleya Leopoldi with thirteen blooms; C. tigrina with fourteen blooms; and Oncidium leucochilum with three spikes 7 feet long, and upwards of a hundred flowers on each. There are twelve very large plants of different Oncidiums; pulvinatum having two spikes upwards of 6 feet long, and each spike more than three hundred blooms. Another plant had five spikes almost equal to those just mentioned. One had thirty side branches to the spike. Another plant had six spikes 2 feet 6 inches long. O. sphacelatum had eight spikes. One plant of Peristeria elata imported three years ago has two large bulbs like Spanish Onions, each bulb throwing up a very thick strong spike for flowering, now 3 feet long, but not yet offering to open its blooms. A young plant of Dendrobium giganteum had twenty-eight blooms, and Lælia superba had sixteen flowers on one spike. There were many others worthy of note, but the preceding will indicate the interest and care which is bestowed upon this class of plants by Mrs. Pearce.

I shall here note a few of the Ferns, and with these my notes will close for the present. In the Fern house are several Adiantums, always graceful when well grown. Some of them are very large specimens, and in very good health. Of Polystichum coriaceum capense there was a noble plant; of Gymnogramma Laucheana and G. Martensii, fine plants; G. Wettenhalliana, crested, silvery all over; Nephrodium molle corymbiferum, crested, intense green; Lomaria gibba, very healthy; Blechnum corcovadense; Platyloma flexuosum, fine large plant; and Thamnopteris nidus, with 4-feet fronds.—G. Dawson.

VARIATIONS OF CYTISUS AND PELARGONIUMS.

Loudon, in his "Hortus Britannicus," gives Cytisus Laburnum and C. alpinus, the gardeners' lists add to these the purple. When we were living near Leicester we had in our garden all these, the purple bearing its racemes of a brownish purple colour. A few days ago I received from a friend visiting at Springford Park, near Ripon, a branch of Laburnum bearing at the apex the fine yellow bloom of alpinus, and, growing on the stem below, erect purple racemes, while the yellow bloom was drooping. On other branches of the tree the flowers were much paler, almost lilac in colour. My friend was told that this change was produced by grafting, but this appears rather problematic. Roses are never known to fall back into the habit of their stock.

This singular capriciousness reminds me of a similar change in an Oak-leaved Pelargonium. I purchased one of these plants for the sake of past associations. I knew the old-fashioned Oak-leaved Pelargonium fifty years ago, so common in cottage windows in Staffordshire. We also cultivated it, admiring its finely formed flowers of a pink-violet colour with crimson lines; "coarse-growing," we used to say, but very effective. However, when my plant flowered the petals were of a rich crimson, quite unlike my early favourite, though very handsome. In process of time the plant became large and "leggy," and was turned out into the borders. In a few weeks its bloom changed. There were still heads of crimson, but others of the true old-fashioned colour, while some bore particoloured flowers, or the two tints side by side. I have a dried specimen which I have kept as a proof that, do what you will, the old nature still asserts itself. Will this at all explain the anomaly in the Laburnum?—Anna Harrison.

[In all probability the branch of Laburnum with various-coloured flowers was Cytisus Adami, which was originally produced upwards of forty years ago in budding Cytisus purpureus on the common Laburnum. In this process it is supposed that a cell of the one species became divided and united to a cell of the other, and the result has been a plant producing not only flowers of each species separately, but others partaking of the characters of both. There are other instances in the vegetable kingdom in which a similar union of cells is believed to have taken place, but Cytisus Adami is the best known and best established. Mr. Fish has added the following interesting notes on the subject:—"The changes produced on the Laburnum when grafted are sometimes wonderful and wholly unaccountable. We have rarely seen the common or Scotch Laburnum sport into other varieties. We recollect of only one instance in which flowers of purpurascens appeared. But if you graft either of the Laburnums with Cytisus purpureus or Cytisus supinus, the vagaries which sometimes take place are astonishing. I can see any day a small standard of Cytisus alpinus which was grafted with Cytisus purpureus, and on the same branch will sometimes be found small pieces of yellow and purple, and at the very point strong shoots of the Cytisus alpinus, the 'blood' of the stock finding its way through the more weakly growth of the scion. What is remarkable is, that grafting or budding with one variety will frequently, as the plant grows, present you with three or four varieties, or what are called 'species.'

"Such sports as you allude to in your Pelargonium are more common. From sports some fine varieties are produced. For instance, Rollisson's Unique Pelargonium is very fine when well grown. A lilac variety now becoming common was merely a sport from a single shoot that came on the rich crimson kind, and having been propagated maintains its distinct colour. We should be inclined to say that your plant would have exhibited similar features if you had not planted it out, though the fresh soil and freer growth might have had some effect in making the plant return to its more normal type.

"The coloured Lotus is the corniculatus ruber. There are two varieties of it—one with more fibrous roots, and one with roots somewhat tuberous. The latter stands the winter in the open ground the better. All coloured-foliaged plants have a tendency to revert to the original type."]

CULVER-KEYS.

A writer in "Notes and Queries" states that he has a note that the Oxlip is called "Cover-keys" in Kent. This is a mistake. In that county the Cowslip is often called "Lady's-keys," and only occasionally "Coney-keys." The latter, I believe, is a Sussex name rather than a Kentish one, and may have been given in consequence of rabbits being so fond of the flower spike of this plant. I may, however, add that in all places where I have heard the above name given, Cowslip was also understood as being one of the flower's names, even among the poorest and most illiterate.

The Oxlip, a sort of intermediate between the Primrose and Cowslip, is sometimes met with in Kent, but rarely, and not plentifully-enough to obtain a distinctive name amongst those who gather Cowslips by the bushel for May garlands and other purposes. Primroses of a dull colour are not uncommon in a

wild state, but are often the offspring of the outcasts of a garden.

Saxifraga granulata plena, a pretty double-flowering plant, is not so plentiful as it ought to be, and is liable to be lost when grown amongst other robust subjects. I find it is sometimes called the Mountain Ranunculus, a term not at all inappropriate.

How many names has the purple Meadow Orchis, Orchis latifolia? I have not taken much notice of such matters, but believe this has more names than the Cowslip.—J. Robson.

[The Oxlip or Cowslip could not have been the Culver-keys, because the flowers of this plant are described as blue. Thus John Davors, the angler and poet, quoted by Walton, delighted in walking "by fresh rivers"—

> "Among the Daisies and the Violets blue,
> Red Hyacinth and yellow Daffodil,
> Purple Narcissus, like the morning rays,
> Pale Gander Grass, and azure Culver-keyes."

For similar reasons Saxifraga granulata does not satisfy the description, its flowers being white. The flowers of the Orchis are in unison with that of Culver-keys, but we fail in any name for that Orchis, either English or foreign, that approaches that of Culver-keys. Its German name, Creutz blum, is the nearest, remote as it is. Our own opinion is that the wild Hyacinth, Scilla nutans, is the Culver-keys of John Davors. —Eds.]

PEWITS AS VERMIN KILLERS.

I should be much obliged by "I. N. P." stating how he manages his pewits—lapwing plovers I take them to be—through the winter? I also had some last year in my garden, and found them very useful. But although there was plenty of food and shelter for them in a large walled garden, they gradually pined away, and died in December. The last survivor, which I examined after death, seemed to be nothing but skin and bone. Is it necessary to feed them at all? and if so, what kind of food should be given? I tried small pieces of raw meat, but the birds would not touch it. I shall be obliged to "I. N. P." for some hints as to his own practice, and also if he would tell me where the birds are to be purchased.—H. E. W.

ROYAL HORTICULTURAL SOCIETY.

July 6th.

Fruit Committee.—George F. Wilson, Esq., F.R.S., in the chair. Mr. William Paul, Waltham Cross, exhibited a collection of thirteen varieties of seedling Strawberries, selected from a great number of other seedlings, which fruited for the first time last year. These were accompanied with details as to their parentage, which proved of much interest. Some of them were of considerable promise, yet none of them proved sufficiently rich to merit any special award. The present season, it may however be remarked, is so very unpropitious for Strawberries, that the best varieties are only of very indifferent quality. Mr. J. Trotman, Spring Grove Nursery, Isleworth, sent a seedling Strawberry of considerable promise, a hybrid between Black Prince and British Queen, showing very distinctly its parentage as regards both varieties. This was commended by the Committee, and Mr. Trotman was requested to send it again next season for farther testing.

Mr. Eckford, gardener to the Earl of Radnor, Coleshill, sent three bunches of a seedling white Grape, named Coleshill White Hamburgh. The bunch was large; berries large, slightly oval. It was, however, not quite ripe, so that no correct decision upon its merits could be arrived at.

Mr. J. Good, gardener to Lonisa Lady Ashburton, Melchet Court, Romsey, sent a very fine specimen of the fruit of Monstera delicious, Mr. J. Hepper, gardener to J. B. Walmsley, Esq., The Elms, Acton, exhibited six very fine specimens of Ripley Queen Pine Apple, averaging in weight from 4½ to 5 lbs. each, and all exceedingly well grown. A special certificate was awarded. Mr. T. Record, gardener to Col. Loyd, Lillesden, Hawkhurst, Kent, sent some ripe fruit of Tacsonia Van-Volxemi, which are edible in the same way as, and very much resemble in taste, &c., those of the Granadilla, or Passion Flower, and have a very agreeable perfume. The fruits are from 4 to 6 inches in length, from 1 to 1½ inch in diameter in the middle, and taper to both ends. When ripe they are of a pale greenish green colour, having altogether quite an ornamental appearance. "The fruit," Mr. Record stated, "hangs about nine months on the plant before ripening; but such extraordinary vigour does the plant possess, that it flowers profusely the whole time; if supplied with plenty of moisture, nearly every flower produces a fruit. Some of the fruit I send you has been cut several days." These fruits, unfortunately, did not arrive in time for the meeting of the Committee.

Messrs. Rivers & Son, nurserymen, Sawbridgeworth, exhibited twelve pretty examples of miniature Apple trees, about 2 feet in height, quite clustered with excellent fruit. These had been grown in the open ground in the ordinary way. They were grafted on the English Nonesuch Paradise stock, which was raised by Mr. Rivers from seed of the Nonesuch Apple, and which in the soil at Sawbridgeworth gives great fertility to trees grafted on it. These were more immediately exhibited, as stated by Mr. Rivers, to show their productive habit and fitness for suburban gardens, as they may be planted from 3 to 4 feet apart with advantage. A special certificate was awarded.

Messrs. Carter & Co., and Messrs. Hurst & Sons, seedsmen, exhibited examples of Laxton's Alpha Pea, a blue-wrinkled Marrow, as early as Sangster's No. 1. This is one of Mr. Laxton's numerous cross-breds, and a very excellent sort. The pods are larger and more curved than Sangster's. This variety has been grown and tested at Chiswick for two seasons in succession, and has there proved in all respects a decided acquisition. It was awarded a first-class certificate. Mr. Wm. Paul exhibited examples of Waltham Hardy White Cos Lettuce; and Mr. Perry, gardener to F. G. Debenham, Esq., Chesbunt Park, sent very good examples of a White Cos Lettuce, both of which were considered to be the ordinary form of White Cos Lettuce of the market gardens. Mr. Gilbert, gardener to the Marquis of Exeter, Burghley, Stamford, sent a very splendid collection of vegetables, which, however, arrived too late for the adjudication of the Committee. Some of the samples were very splendid, and called forth the admiration of everyone, in particular the Cauliflower. Mushrooms, Globe Artichokes, and Turnips. It consisted further of good dishes of Potatoes (four varieties), Carrots, Peas, Lettuces, Onions, and Cucumbers.

From the garden of the Society came ripe examples of the early Pears, Citron des Carmes and Amiré Joanett, which this season are rather later than usual, and very small.

Floral Committee.—Rev. J. Dix in the chair. The Messrs. Veitch, as usual, exhibited a very fine collection of plants. Among these Cypripedium Parishii was remarkably fine and distinct; a first-class certificate was awarded it. To Miltonia Regnelli purpurea, very beautiful, a first-class certificate was also given. A special certificate was awarded the collection.

Mr. Bull sent a large collection of plants, many of them too old for the special object of the Committee, or not in condition for adjudication. A special certificate was awarded the collection. Messrs. Downie, Laird, & Laing exhibited seedling hybrid Zonal Pelargoniums, promising, but seedling plants, which the Committee cannot recognise. Messrs. Rollisson sent a collection of plants, which was awarded a special certificate.

Mr. Appleby received a first-class certificate for seedling Lobelia Mauve Queen. In colour this Lobelia was considered as a desirable variety, and promising for decorative purposes. Mr. Noble sent a fine plant of Spiræa palmata, as beautiful and attractive as ever; indeed, one of the most desirable hardy plants in cultivation, one which no amateur should be without. Mr. Hally sent specimens of a double Zonal Pelargonium, Mrs. Hally, rose-coloured flowers, but not distinct from many others. Mr. Perry, gardener to F. G. Debenham, Esq., sent Fuchsia Mrs. Perry.

Messrs. E. G. Henderson exhibited a collection of dwarf seedling Lobelias, also a splendid selection of decorative plants in small boxes, which were awarded a special certificate. Messrs. E. G. Henderson were also awarded a special certificate for a collection of curious terrestrial Orchids, many of them of botanical interest. Among these were several Satyriums from the Cape.

From the gardens at Chiswick came a box of Aubrietia purpurea variegata; if constant in colour, it will be valuable. This was requested to be sent again.

Mr. Coppin sent a collection of seedling Roses, and Mr. Eckford, Coleshill, seedling Ivy-leaved Pelargonium, Lady Evelyn, which it was requested should be sent again.

From Mr. W. Paul came seedling Nosegay Pelargonium Cyrus, and a collection of cut Roses in fine condition, which received a special certificate. Mr. Brown, Sudbury, sent specimens of a pure white Gladiolus.

Mr. Williams, Holloway, had a pretty plant of Adiantum capillus-Veneris undulatum, which received a first-class certificate. Mr. Lorrimer, gardener to E. Salt, Esq., sent a fine specimen of Oncidium macranthum, which most deservedly received a special certificate. Mr. Hooper, Bath, exhibited a seedling Picotee, Princess Teck, too coarse; Mr. George, Putney, seedling Zonal Pelargoniums. One of fine form and truss, a hybrid Nosegay, called Harry George, received a first-class certificate. Mr. Cooper brought a collection of Cacti, which, though limited, was very interesting, and received a special certificate.

G. F. Wilson, Esq., a most enterprising exhibitor of Liliums, and to whom the Society is much indebted for his perseverance in bringing this interesting class of plants to notice, received a special certificate for a magnificent specimen of L. longiflorum, with an unusual number of flowers. We sincerely trust Mr. Wilson may be supported in his earnest endeavour to bring this class of flowers to public notice. Great confusion at present exists in the nomenclature, and any light which may be thrown on this now neglected family, will be most acceptable. Much may be done, and remains to be done, as to the dis-

tinction of these plants. It is most earnestly to be desired that this example may be followed. How much the horticultural world has lost by the neglect of this beautiful family, is now a subject of consideration, and we hope that support by way of information will be readily afforded. What is specially desirable is to arrive at specific names, and what are seedling or garden varieties. The Society, as well as the promoters of the cultivation of the Lilium family, will be glad of any information or assistance in bringing these noble flowers again into notice.

Mr. W. Paul received a special certificate for his collection of cut Roses; he also sent seedling Roses and Zonal Pelargoniums. Mr. Smith, Edmonton, sent seedling Zonal Pelargoniums.

Mr. Green, gardener to W. Wilson Saunders, Esq., sent a collection of very interesting plants; a species of Momodes, a very beautiful Orchid, which received a first-class certificate; Brassavola lineata, a very attractive Orchid—first-class certificate; and others. A first-class certificate was awarded the collection. We must notice from this garden came also specimens of a lovely climbing Rose, a single sweet-scented flower, most valuable as a decorative climber. This Rose is in the sole possession of Mr. Saunders, and was raised from seed introduced by the late Dr. Royle; also cut specimens of a hardy ornamental plant, almost unknown, Stuartia pentagyna, were furnished from this gentleman's garden. It is one of the most beautiful hardy shrubs ever seen, and should be sought for by all lovers of ornamental hardy shrubs. Every meeting seems to draw from this valuable collection of plants some hidden or, at present, unknown beauty. The Society may well be proud of so staunch and liberal a supporter of its objects.

Sir W. Parker exhibited a very fine specimen of a Clove Carnation, Souvenir de Malmaison; its gross flowers devoid of all symmetry, condemn it in the eyes of a florist; it is a plant in the esteem of all amateurs and florists devoid of any merit.

Interesting specimens of double and semi-double flowers of the Potentilla were sent from Chiswick Gardens; their merit as ornamental plants is of the highest order, and with careful attention they will prove most useful among decorative herbaceous plants. We have reason to believe that in a short time surprising varieties will be introduced.

Mr. Perkins, of Leamington, sent fine specimens of a seedling tree Picotee, a fine yellow good flower, which received a first-class certificate. Mr. Edwards sent Pteris serrulata cristata magnifica—first-class certificate, distinct from the tasselled form. Mr. Turner, Slough, sent seedling Roses—Caroline Hole, Lord Napier, a promising variety; Floreat Etona, Charles Perry, and Miss Poole, none of special importance. A special certificate was awarded to Mr. Turner for a box of his Rose Miss Ingram, a flower of much beauty. Mr. William Paul exhibited seedling Roses, and a special certificate was awarded for his superb collection of cut blooms. Mr. W. Paul also exhibited Zonal Pelargoniums, among them Waltham Bride, a dwarf Silver Bicolor, which will be most useful; this had received a first-class certificate on a previous occasion. His collection of cut flowers of Zonal Pelargoniums was much admired. Mr. Laxton sent four seedling Roses, but not in condition, or in any way equal to many known varieties.

Major R. Trevor Clarke exhibited a seedling variegated Ilex, but not considered permanently fixed; also a Mammillaria, a fine specimen, which he has kindly offered to the collection of these curious and interesting plants at Kew.

Messrs. Barr & Sugden sent a fine collection of Spanish and English Iris. Of the beauty of this class of plants too much cannot be said; they are of little reputation among amateurs, but are of great value, easy of cultivation, and most ornamental. Years ago one of the oldest Fellows of the Society, whose name is well known, and whose labours in horticulture will for ever be respected, Mr. Masters, of Canterbury, paid much attention to this family, and possessed a very unique and fine collection, but from want of appreciation till the present time they seem to have been lost. We cannot too strongly recommend attention to these flowers. Useful for decoration and beautiful in themselves, no garden should be without a well-assorted collection of them.

The meeting this day was most successful; and we would here venture to hint that much labour would be spared the Committee if only novelties were entered for their consideration.

Prizes were awarded for twenty-four Carnations, which, like the Picotees, were of first-class character. Mr. Turner was first for twenty-four with Premier, Defiance, Col. Windham, Dreadnought, Juno, Sensation, Prince Albert, James Merryweather, Splendour, Beauty of Woodhouse, Lady of the Lake, William Cowper, Favourite, Princess Royal, Companion, John Reet, Eccentric Jack, Christopher Sly, Merrimac, Africana, Dr. Foster, Rifleman, True Blue, and Rainbow. Mr. Hooper, Bath, was second, and Mr. Bragg, Slough, third. For twelve Carnations Mr. Norman, a veteran grower, whose name is most welcome again, was first with Lady of the Lake, Robinson's John Reet, Seedling, Miss Napier, Baildon's Juno, Juba, Mayor of Nottingham, Simpson's Queen, Ward's Sarah Payne, Kay's Comet, and Delicata. Mr. Smith, Bath, was second; Mr. Kingston, Bath, third. For six Carnations Mr. Norman was first with Julia, Juno, Comet, Mayor of Nottingham, John Reet, and Lady of the Lake. Mr. Kingston was second; and Mr. Smith, Bath, third.

For twenty-four Picotees, Mr. Turner was first with Lucy, Prince Arthur, Exquisite, Miss Wood, Pecco, Emmeline, Lord Nelson, Ascot Giant, Amazon, Mrs. Hobbs, Mrs. May, Finis, Alfred Ingleton, Mrs. Dodwell, Miss Williams, Countess, Rosetta, Northern Star, New Colour, Duke of Devonshire, and two or three seedlings. Mr. Hooper was second, and Mr. Pilgrim third. For twelve, Mr. Kingston was first with Polly Perkins, Miss Matthews, Lady Peel, Antonia, Mr. Varley, Lady Grantham, General Pym, and Jessie. Mr. Smith was second. For six Picotees, Mr. Norman was first with Mrs. May, Miss Wood, Eliza Payne, Miss Sewell, Princess of Wales, and a seedling. Mr. Kingston was second. For thirty-six Carnations, Picotees, and Cloves mixed, Mr. Turner was first, Mr. Hooper second; and for twelve, Mr. Kingston was first, Mr. Smith second, and Mr. Norman third.

The collections of these flowers were of first-rate character, and the blooms exhibited quite sufficient to again make them great favourites with all who admire these essentially beautiful flowers.

General Meeting.—W. Wilson Saunders, Esq., F.R.S., in the chair. Six new Fellows having been elected, and the Committee awards announced, Major Trevor Clarke, in the absence of the Rev. M. J. Berkeley, through illness, directed attention to some of the plants exhibited. He particularly noticed Pelargonium Empress, which, instead of having flat rounded petals, like a florist's flower, exhibited beautiful undulating lines; the Satyriums from Messrs. Henderson, a class of Cape ground Orchids well worthy of notice, and of which Sir John Herschel is one of the greatest cultivators; the Carnations and Picotees, of which he remarked that there is yet very much to be done in crossing and hybridising with each other and the various forms of Dianthus; and Spiræa palmata, than which he considered a more beautiful shrubbery plant could scarcely be conceived. Stuartia pentagyna, closely allied to the Cotton plant, was then pointed out, and slices of the Giant Puffball, Lycoperdon giganteum, of which large specimens were sent by Messrs. Carter & Co., were handed round, Mr. Saunders assuring those present that it might be eaten with perfect safety.

Major Clarke, on again proceeding, referred to the white Lily from Mr. G. F. Wilson, as being probably merely a well-grown plant of Lilium longiflorum, and produced a Lily raised from the seed of the common Martagon, which he supposed had been fertilised with the pollen of the common white garden Lily; likewise Sweet Peas, showing the result of crossing the common purple with the Scarlet Invincible for three generations, and the more it was crossed the darker it became. Aspernla azurea was noticed as a pretty plant for a mass, pincushion bed, or edging.

Mr. Wilson Saunders next directed attention to the fruit of Monstera deliciosa, which he said he had used three or four times with great pleasure. It should be used just before it became over-ripe, and was then extremely luscious and delightful; it was, however, not pleasant when eaten before it arrived at that state, nor afterwards. It should be taken just when the outer scales begin to fall off, and has then somewhat of a Pine-Apple flavour united to that of spice. With regard to the Briar Rose, noticed in the Floral Committee report, it was introduced by Dr. Royle from the Himalayas; it would spread over an immense space, its flowers were sweet in the extreme, but though so luxuriant, it would not bear cutting. It had been very troublesome to propagate till last year, when it was found to strike very readily from cuttings of the quite young wood.

Mr. Bateman, after brief reference to the Monstera and the spiculæ which render it objectionable when it is not eaten at the proper stage of ripeness, mentioned that an enormous Arum had been discovered in Nicaragua, and pointed out some of the most remarkable of the Orchids, especially Cypripedium Parishii and Thunia Bensoniæ, remarking, in connection with the latter, that he hoped Colonel Benson, at present in this country, would come to the next meeting, and give his experience relative to this and the other fine Orchids which bear his name. The new species of Mormodes from Mr. Wilson Saunders, showed how Mormodes and Cycnoches run into one another The beautiful specimen of Oncidium macranthum from Mr. Salt's gardener was described as being particularly worthy of notice, and Mr. Bateman said that the sooner the absurd adjunct of hastiferum was cut off the better; for the plant exactly answers to the description of O. macranthum which Messrs. Veitch had introduced many years ago, but which had been lost from not receiving the proper treatment; the temperature required was that of an ordinary greenhouse. With regard to the ground Orchids of the Cape, he hoped they were the first fruits of a large harvest from the same source. As an instance of their beauty he quoted Herschelia cœlestis, of which the blue of the flowers calls to mind the tint of the southern sky. The Satyriums were only another instance that as fast as certain branches of horticulture seem to become exhausted others come forward to take their place.

Mr. Bateman then gave an entertaining lecturet on the Coco de Mer, or Double Cocoa Nut of the Seychelles Islands, illustrated by specimens from Kew and the South Kensington Museum. He gave extracts from Rumphius, showing what were the superstitions of the natives of the Spice Islands concerning it, the value of the nuts, and the singular medicinal virtues ascribed to them; that the tree was believed to grow at the bottom of the sea till at last it was discovered that it grows in the Seychelles, and that its fruits, falling into the ocean, are carried hundreds of miles away. The uses made of the

nut, and of the leaves for ornament and thatching, were alluded to; likewise the labours of Von Martius in connection with Palms; and Mr. Bateman detailed the circumstances of his first introduction to him, and concluded by expressing a wish that all English botanists and horticulturists would be as kind to foreigners as the latter invariably are to the English.

At the conclusion of the meeting, specimens of the pretty Lithospermum petræum, from Mr. W. Robinson, were exhibited, after which the Chairman announced that the next General Meeting would be held at Manchester, on the 20th inst., and the following one at South Kensington, on August 3rd.

ENTOMOLOGICAL SOCIETY'S MEETING.

The June meeting of the Society was held at Burlington House, the President, Mr. H. W. Bates, being in the chair. Among the donations to the Society's library received since the last meeting were the publications of the Royal and Zoological Societies, and the Natural and Entomological Societies of St. Petersburgh, Berlin, Vienna, Geneva, Leyden, &c. A new part of the Society's "Transactions" containing a portion of Dr. Sharp's monograph on the genus Homalota, and the fourth part of Mr. Hewitson's splendid work on the Butterflies of the family Lycænidæ, were also on the table.

Mr. Pascoe exhibited a small but very remarkable Coleopterous insect, captured by Mr. Du Boulay at Champion Bay, New Holland, which seemed to be allied to the Histeridæ and Clavigeridæ. (It has since received the name of Chlamydopsis striatellus, *West.*) Mr. Stainton exhibited specimens of a curious new species of Tineina, with large bushy polypi, reared by M. Milliere, of Cannes, from Osiris alba, and named by him Paradoxus Osiridellus. Mr. F. Smith exhibited a living specimen of Physonota gigantea, a Beetle of remarkable metallic beauty during life, but whose colours fade soon after death. It was found in considerable numbers in a cargo of logwood from South America, at Liverpool. Likewise a living specimen of the larva of a Beetle of the genus Pyrophorus (?), which emitted a brilliant green light from the ten spiracles along each side of the body, whilst the head gave forth a bright red light, the intensity of the colours causing Mr. Smith to compare them to the red and green signal lamps of a railway train. It had been communicated to the British Museum by Mr. Lettsom from Maldonado, and had remained alive for two or three months in damp earth without food.

Mr. Stainton exhibited specimens of Gelechia atrella, the larva of which resides at first in a moveable case, formed by cutting off and flattening a small portion of the stem of an herbaceous plant, and afterwards burrows down the stem of Hypericum.

A letter was read from the Secretary of the Flax Improvement Society of Belfast, relative to the injury done to the Flax whilst in the seed leaf by a small Beetle, Thyamis parvula, *Paykull*, nearly allied to the common Turnip Flea Beetle.

Professor Westwood exhibited specimens and drawings and read descriptions of several remarkable small Coleopterous insects, chiefly from Western Australia, several of which had been collected by Mr. F. Du Boulay at Swan River and Champion Bay, illustrating the affinities of the anomalous genus Ectrephes, *Pascoe* (Anapestus, *King*), with the Ptinidæ.

Mr. Druce exhibited a collection of Butterflies from Borneo, including a fine new Ornithoptera, and other new species.

Mr. F. Smith exhibited a parasitic British Bee, Melecta armata, which was infested to so great an extent with the minute larvæ of Meloe, that it was unable to fly, and was found struggling in the grass. He also read a memoir containing "Descriptions of new species of the Hymenopterous genus Pison, and a synonymic list of those previously described." The species are nest-builders, the nests resembling those of the genus Pemphredon, and being provisioned with spiders. The number of species has been raised by Mr. Smith to forty-three, the majority being natives of New South Wales. He also read descriptions of some other new genera and species of exotic Hymenoptera, including a Methœa from North China. Mr. Charles Horne communicated a report made to the Indian Government upon the ravages of the Carpenter Beetle in all parts of India.

Mr. F. Walker read a note on the habits of certain Chalcididæ, which appear to be herbivorous instead of parasitic, and on a new species of Megastigmus.

Major F. Parry read "Observations on Lucanoid Coleoptera, with Remarks on some New Species, and on the Present Nomenclature, accompanied by a Revised Catalogue of the Species;" and Mr. A. R. Wallace read "Notes on Eastern Butterflies (continuation—Erycinidæ and Libytheidæ), with Descriptions of various New Species belonging to these Families collected by himself in the Malayan Archipelago."

PLANTS FLOWERING IN JUNE.

June 2. Centaurea candidissima
Cyanus
Pentstemon ovatum
Centranthus ruber
Cerastium Biebersteini
tenuifolium
June 2. Cheiranthus alpinus
Marshalli
Alyssum saxatile
Anchusa italica
Festuca glauca
Artemisia dracunculus
June 2. Arenaria cæspitosa
marina
" 5. Asphodelus ramosus
lutea
Eryngium alpinum
cæruleum
Bourgati
planum
Stipa pennata
Erigeron canadensis
Villarsii
Aquilegia sibirica
vulgaris
glandulosa
bicolor
alpina
Dictamnus Fraxinella
Agrostemma flos-Jovis
Delphinium Barlowii
Hendersoni
formosum
Lowii
chinense
" 9. Veronica dentata
gentianoides
incana glauca
fruticulosa
saxatile
spicata
Viscaria splendens
Viola montana
tricolor
cornuta
erecta
lutea
Whitlavia grandiflora
Cardnus Marianus
Phlox Drummondi
Matthiola annua
Rose, various
Gilia tricolor
Limnanthes Douglasii
Actæa spicata
" 12. Coronilla varia
Astragalus monspessulanus
Astrantia major
Dondia Epipactis
Epilobium angustifolium
Antholyza coccinea
Dianthus barbatus
cæsius
deltoides
Marie Paré
fimbriatus
Phlox frondosa
Nelsoni
setacea
Rose, Double Yellow Persian
" 14. Adonis æstivalis
autumnalis
Pentstemon glabrum
Scouleri
Physalis Alkekengi
Pinguicula vulgaris
Primula farinosa
Alchemilla vulgaris
alpina
conjuncta
Beta maritima
Betonica stricta
Aubrietia purpurea
purpurea variegata
Campbelli
Babiana aurantiaca
Bellium miniatum
Achillea Clavennæ
Millefolium rosea
Ptarmica flore-pleno
tomentosa
Cynoglossum montanum
Antennaria hyperborea
Crucianella stylosa
Barbarea vulgaris flore-pleno
Conolnia hystrix
Anthirrhinums
Fragaria vesca variegata
Galium verum
boreale
Ajuga reptans alba
Geum montanum
June 14. Geum rivale
triflorum
Glaucium flavum
Habenaria bifolia
Hedysarum coronarium
Polemonium cæruleum
Richardsonii
Saponaria officinalis
ocymoides
Verbascum nigrum
versicolor
Thapsus
Tradescantia virginica
Spirea Filipendula
Linaria Cymbalaria
Meconopsis cambrica
Stenactis speciosa
Camassia esculenta
Myosotis palustris
alpestris
azorica
" 19. Campanula glomerata
grandis
latifolia
nitida
pumila
urticifolia
pulla
Aconitum Napellus
Catananche cærulea
bicolor
Chrysosplenium oppositifolium
Cineraria maritima
Convallaria majalis aurea
Ajuga genevensis
Allium azureum
Moly
striatum
Digitalis purpurea
lutea
Helianthemum guttatum
vulgare
rotundum
Rosy Gem
Hemerocallis fulva
flava
Hesperis matronalis, dble.
Iris pavonia
persica
pseud-acorus
Lathyrus grandiflorus
Liatris elegans
spicata
Salvia bicolor
" 21. Lythospermum purpureo-cæruleum
Lupinus polyphyllus
nanus
albus
Lychnis dioica
atocion
Melissa grandiflora
Menyanthes trifoliata
Mimulus cupreus
cardinalis
Nepeta violacea
Reseda lutea
odorata
" 29. Œnothera grandiflora
Orchis maculata
Potentilla alba
Symphytum asperrimum
Thymus vulgaris
cephalotes
variegata
Saxifraga aizoon
Andrewsii
densa
polita
granulata
Silene acaulis
Ranunculus flamula
Ornithogalum pyramidale
umbellatum
narbonense
Potentilla insignis
Sisyrinchium striatum
Iberis coronaria
Linum flavum
Nemophila insignis
Rhododendron hirsutum

—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

Dendrobium densiflorum var. albo-lutea (White and yellow Dense-flowered Dendrobe). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of the Moulmein forests.—(*Bot. Mag., t.* 5780.)

Vaccinium reflexum (Reflexed-leaved Whortleberry). *Nat.*

ord., Vaccinaceæ. *Linn.*, Decaudria Monogynia.—"A beautiful little Andean rock plant, conspicuous for its pendulous habit, the deep glossy green hue of the leaves, which are reflexed on the stem and branches, the bright pale red hue of the young foliage, and deep red flowers. It was introduced by Messrs. Veitch, through their late energetic collector, Mr. Pearce, from Bolivia, and flowered in their establishment in the King's Road, Chelsea, in January of the present year."—(*Ibid.*, *t.* 5781.)

Geonoma Ghiesbrechtiana (Ghiesbrecht's Geonoma). *Nat. ord.*, Palmaceæ. *Linn.*, Monœcia Hexandria.—A very ornamental Mexican Palm. No stem; leaves from 2 to 5 feet long.—(*Ibid.*, *t.* 5782.)

Dipladenia Boliviensis (Bolivian Dipladenia). *Nat. ord.*, Apocynaceæ. *Linn.*, Pentandria Digynia.—Native of Bolivia; the other species have hitherto been found on the east coast of South America only. It is very beautiful, flowers white with yellow tubes. Introduced by Messrs. Veitch.—(*Ibid.*, *t.* 5783).

Pterodiscus luridus (Lurid-flowered Pterodiscus). *Nat. ord.*, Pedalinaceæ. *Linn.*, Didynamia Angiospermia.—"One of the most remarkable botanical features of the drier districts of South Africa, is the presence of plants of various natural families possessing short stout tuberous stems or caudices, rising a few inches above the ground, and sending forth from their crowns, on the approach of the wet season, a few stout herbaceous, succulent, leafy, flowering branches. They flourish best in a moderately warm house, planted in a poor soil, amongst stones, &c., and exposed to the full light of the sun. The present example of this form of vegetation is a native of the Albany district of Cape Colony, and was sent to the Royal Gardens from those of Graham's Town, along with many other interesting plants."—(*Ibid.*, *t.* 5784.)

Moræa bulbifera (Bulbous Moræa). *Nat. ord.*, Iridaceæ. *Linn.*, Triandria Monogynia.—"The present species is one of the most beautiful of the genus, and produces a great multitude of its golden flowers in succession, which expand fully in the sunshine, and ornament a house for a period of several weeks. It is a native of various districts of South Africa, and was lately imported by our friend Mr. Wilson Saunders, F.R.S., through his indefatigable collector, Mr. Cooper. It was originally introduced into the Vienna Gardens so long ago as last century."—(*Ibid.*, *t.* 5785.)

Fig Col di Signora Blanca Panachée.—"To all lovers of beautiful fruits this, the most beautiful of all Figs, will be especially welcome. Nothing can exceed the charming appearance of a handsomely grown pot-tree of this variety, laden with its strikingly handsome Figs. The fruits are streaked (panachée), some more irregular in the markings, some almost yellow, and some reverting to the natural green; all, however, are very beautiful, and show their markings plainly, from the first appearances of the little embryo Figs, until their maturation. This is not a new Fig, but a sport from the better known Col di Signora Blanca, one of the finest Italian varieties, which it closely resembles in form and quality, and, like it, requires to be grown in considerable heat, so as to bring out fully the superior richness of flavour. It succeeds best grown in pots, under which conditions it fruits freely, and proves in every respect satisfactory. Fruit medium-sized, roundish-turbinate, evenly and regularly formed. Neck shorter than in the original. Skin thick, green, beautifully striped with longitudinal bands of bright yellow. Eye small, closed. Stalk short. Flesh deep rose, thick and syrupy, rich, and most delicious. The length and form of the neck of the first fruits are suggestive of the name, Lady's Neck."—(*Florist and Pomologist*, 3rd s., ii., 145.)

NEW BOOK.

A Practical Treatise on the Cultivation of the Grape Vine. By William Thomson, Gardener to the Duke of Buccleuch, Dalkeith Park. Sixth Edition, enlarged. W. Blackwood and Sons.

Six editions in seven years is evidence that the gardening community assent to our estimate expressed on the appearance of the first edition, that a book on Vine culture from Mr. Thomson's pen "must be expected to be excellent, and that the volume before us will not disappoint that expectation." There is much added to the present edition, and among the additions is this on "Vine Roots."

"The roots of Vines, like those of most other trees, have a tendency to descend into the earth, and when they reach certain subsoils they become unhealthy, besides which they are then far from the genial influences of sun and air. To prevent this, remove a few inches of the surface of the border every summer during dry weather, which will most probably expose some of the roots, at any rate descend till they are reached, then on, under, and amongst these young roots lay a few inches of nice fresh loam, horse droppings, and old lime rubbish in equal parts, with a few handfuls of ground bones. Into this mixture the Vines will send a mass of fine feeding fibry roots, that with similar annual attention may be kept there, where they should be mulched as already directed, and during very hot dry weather fed with liquid manure, either from the farmyard or cesspool. When neither of these is available, mix guano at the rate of 1 oz. to the gallon of water. If this process is persevered in, it reduces the importance of concreting the bottoms of Vine borders, as the Vines seldom suffer from any roots formed at too great a depth. An amateur close to this place has for many years grown splendid crops of Grapes, chiefly Muscats. The Vines are planted in an outside border, only 6 feet of which was made soil, and the roots are all right through it into the general soil of his garden, which is poor, shallow, and gravelly; but he annually covers more than 30 feet in width of the soil on each side of his span-roofed house with 6 inches of nearly solid cow manure, which during the year washes into the soil, and is, when examined, a complete mass of fine Vine roots, and is not disturbed except by the hoe, to kill weeds, the sharp hungry soil preventing all danger from over-feeding by such means. To this mulching, and occasional waterings during the late scorching summer of 1868, when every tree and bush, as well as weed, in his garden was covered with red spider, he attributes the immunity from that pest which Vines enjoyed. From this vinery I conceive a sound lesson in Grape-growing may be learned, hence my reason for referring to it."

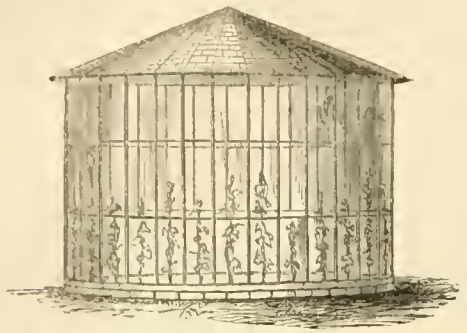
On the last two pages of the work Mr. Thomson gives an extract from a volume published in 1631, in which the first description of a vinery to be erected in England occurs. We restrict our sentence to England, because there is reason to believe from Martial's Epigrams, that the Romans had vineries as well as peacheries, and it is certain that they forced Cucumbers.

In 1614, Barnsby Googe published a translation of Heresbach's "Whole Art of Husbandry." In that, although directions are given for Vine culture, there is no allusion to a vinery. In 1631, another edition of the work appeared, edited by Gervase Markham, in which he does describe a vinery, adding —"This experiment hath beene approved in England and found most excellent." That edition we have not seen, but Markham in another volume he published in 1635, entitled "The English Husbandman," again describes the vinery as follows:—

"If you desire to have Grapes in their true and best kinde, most early and longest lasting, you shall in the most convenient part of your garden, which is ever the center or middle point thereof, build a round house, in the fashion of a round dovecoate, but many degrees lower, the ground worke whereof shalbe above the ground two or three brickes thicknesse, upon this ground-plot you shall place a groundsell, and thereon, fine, yet strong studs, which may reach to the roofe: these studs shalbe placed better then foure foote one from another, with little square bars of wood, such as you use in glasse windowes, two betwixt every two studs, the roofe you may make in what proportion you will, for this house may serve for a delicate banquetting house, and you may either cover it with leade, slate or tile, which you please. Now, from the ground to the top, betweene the studs, you shall glase it, with very strong glasse, made in an exceeding large square pane, well leaded and cimented. This house thus made, you shall observe, that through the bricke worke there be made, betweene every two studs, square holes, cleane through into the house; then on the outside, opposite against those holes, you shall plant the roote of your Vine, having beene very carefull in the election and choice thereof: which done, as your Vine groweth, you shall draw it through those holes, and as you use to plash a Vine against a wall, so you shall plash this against the glasse window, on the inside, and so soone as it shall beginne to beare Grapes, you shall be sure to turne every bunch, so that it may lye close to the glasse, that the reflection of the sunne heating the glasse, that heat may hasten on the ripening, and increase the groath of your Grapes: as also the house defending off all

manner of ovill weather, these Grapes will hang ripe, unrotted or withered, even till Christmasse."

Now, we have a copy of this volume, and some previous possessor has drawn on the page opposite the description, this illustration of the vinery :—



POMOLOGICAL GLEANINGS.

Citron des Carmes Pear.—Notwithstanding the extreme lateness of the season, the Strawberry crop being quite a fortnight later than usual, this Pear is now (July 5th) ripe, and falling from some old trees in quantities. The fruits are much smaller than usual, have a very scrubby appearance, and are not at all good-flavoured, or of their usual character. The finest fruits on the trees, and the whole crop on young plants, will yet require ten days or a fortnight to ripen. Last year the best fruits of Citron des Carmes were ripe on the 1st of the month, at the same time as Doyenné d'Eté, which this season will require quite a fortnight to ripen.

MULBERRY CULTURE.

When I first came to Welbeck in 1837, I was much struck with some large flower pots perched on the tops of two standard Mulberry trees, and imagined they were placed there for some species of birds to build their nests in. On asking the late Mr. Mearns, who was my predecessor as gardener there, he informed me that the late Andrew Knight, of Downton Castle, always used to raise his fruiting trees of Mulberries in that way. Mr. Mearns likewise informed me that Mr. Knight found out that, by propagating the Mulberry in the usual way, it required from twenty to thirty years' growth before it would fruit abundantly even in the south of England. I paid particular attention to these little Mulberry bushes, and, when perfectly rooted, had two of them in a fruiting state for many years, by shifting them, and growing them in large tubs. Mr. Mearns's trees were propagated by layering a small fruiting branch into the pot, and the pot afterwards fastened with strong wire to a branch or stake to keep the wind from shaking it. I believe the best way to produce a large fruiting bush of the Mulberry would be to have a large flower pot made into two halves, and when the branch was put in at the hole in the bottom of the pot, the pot could then be bound together and fastened to a strong stake; the pot would then have to be filled with earth of a strong loamy nature, and some fresh moss placed on the top and pegged down to keep the wind from blowing it off. This moss would keep the soil moist, for watering would be required in the summer months in dry weather.

In the midland counties in England it is only in exceptionally warm summers, such as 1846, 1865, and 1868, that standard Mulberries produce fruit ripe enough to use. The two standard trees from which the pot bushes were raised were planted by the celebrated Speechley, and must have been about 110 years old when I first knew them. Another tree of the same age was denuded of all its branches by Mr. Mearns, except two at the top, and planted on a high south wall. He began training all the young branches downwards from the two leaders, and they soon got into a fruitful state, and produced fine fruit. No doubt a sunken pit where Asparagus was forced in helped this tree's growth, for its roots came close to the wall where the hot dung-linings were put in. In 1858, when the new gardens were made, I had this tree lifted with a machine, and planted in nearly a similar aspect, but without the advantage of its roots being heated in spring. Every year since it has never failed in bearing fine fruit, but in the past summer they were larger and finer than I ever remember to have seen Mulberry fruit even in the south of England. The tree covers a large space, and was worthy of being covered with Nottingham netting, which I had to do to save the fruit from birds, wasps, and flies.—William Tillery (*The Gardener.*)

NOTES AND GLEANINGS.

Messrs. Barr & Sugden sent us "a specimen of the giant form of the White Cos Lettuce," and well it deserved the name. It was 15 inches high from the base of the leaves to the tip, and weighed more than 3 lbs. 7 ozs. Messrs. Barr and Sugden are carrying on some trials testing the merits of various Lettuces and Peas, the results of which we hope to publish.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Take advantage of dry weather to eradicate the weeds which have sprung up lately, and when the soil is not sufficiently dry for hoeing, handweeding should be resorted to. As the production of strong *Asparagus* next spring will depend mainly on the culture in the present summer, let the beds, after cleaning, be mulched with short grass or half-rotten manure. Liquid manure in which some salt has been dissolved should then be applied freely for the next month or six weeks, or the salt may be spread over the beds, to be washed in by the rains and watering. *Globe Artichokes* and *Sea-kale* will be improved by similar treatment. Continue planting out Cape and other *Broccoli*, also some late *Cauliflowers*. Water freely Cauliflowers, *Lettuces*, *Radishes*, and other vegetables which require to be grown quickly to have them crisp and tender. We need scarcely add that in all cases vegetables will be improved in size by giving manure water if it can be procured in sufficient quantities for all purposes. Continue planting out *Celery* as required, and the early crop may have a slight earthing, having previously taken off any lateral buds and well watered the rows. It is advisable to sprinkle a little salt along the Celery trenches before earthing them up, as it both kills slugs and worms and accelerates the growth of the plants. Keep up succession beds of Horn *Carrots*. Sow a good supply of early *Cabbages* or Chappell's Colewort for autumn and winter use. An autumn *Mushroom* bed may now be made. Throw the dung together to ferment for a few days; when half dry mix one-third of loamy soil with it to keep in check any further fermentation, and tread or beat hard while making the bed, forming the spawn-holes immediately it is finished, to assist in keeping down the heat. A crop of Parsley to stand over the winter should now be sown in a dry sheltered spot. Let a good breadth of ground be prepared for *Winter Spinach*; trench it thoroughly, and let it be heavily manured. This crop generally succeeds in beds slightly raised.

FRUIT GARDEN.

The nailing and tying-in of this year's wood should be continued. Many fine trees are in a bad condition from the uncongenial weather. Most kinds of fruit now ripe or ripening will require the protection of nets to preserve them from birds, which in most country places are troublesome neighbours, otherwise a boy must be employed to keep them from the small fruit during the fruit season. As the early Cherries are gathered, shift the netting to other kinds which are yet to ripen. Vines against walls should be closely nailed up, to obtain the benefit of what little heat there is in this unseasonable weather. Figs must be treated in the same way, pinching out the point of this year's wood, except the leaders, when they have made five or six joints. The breastwood may now be removed from Pears and Plums against walls, cutting away that on the upper part of the tree first, then after an interval of two or three weeks another portion, and finally finishing by a third cutting of the lower part. By this plan there will be less danger of the cut-back shoots starting again; and the lower shoots, which are generally the weakest, will gain additional strength by being allowed a few weeks longer to grow. Strawberry runners should be procured for new plantations without delay. Those who cannot spare ground for a new bed may prick them out in prepared beds about 6 inches apart, and remove them with balls in October or in the early part of February.

FLOWER GARDEN.

The recently planted beds will still require watching to get the plants in them fairly started. The heavy rains have chilled

the ground, and some of the more tender or badly rooted plants look sickly. As the grounds and shrubberies are much more frequented by company att his season, pay attention to preserving the greatest neatness and order in every part. Where there are enough hands to admit of it, flowering shrubs as they go out of bloom should have the dead flowers and leaves removed and be slightly cut back. For the same reasons remove the seed pods of Rhododendrons and Tree Peonies. These little attentions will be followed by an increased growth of the plants, and a greater certainty of their blooming every season. See that Hollyhocks, Dahlias, and the taller-growing herbaceous plants are properly secured to stakes. When growing, cut back the perpetual-blooming Roses as they go out of flower, and supply them with the richest manure water, to encourage a second growth and bloom. Strong shoots of Chrysanthemums may now be layered in pots to produce dwarf, compact plants. Carnations and Picotees will now be in bloom. Let plants in pots be moved under an awning. Here they may be arranged on a raised platform, or not, according to taste. Picotees may be grouped on one side and Carnations on the other, taking care that the tallest plants are at the back, at the same time contrasting the colours as much as possible. Pipings may be put in on a gentle bottom heat. Layering may also now or very soon be proceeded with, as much of next year's success depends on this. All seedlings should be marked, noticing their various properties of form, colour, and substance.

GREENHOUSE AND CONSERVATORY.

The conservatory should now be kept as gay as circumstances will permit. It is not desirable, however, to crowd it with flowering plants; the aim should rather be to have a moderate number of handsome specimens effectively arranged, which will yield more interest and pleasure than a greater amount of floral display from plants of no individual merit. We would recommend a thin arrangement of the pot plants, on account of the permanent occupants of the beds and borders, which at this season should be allowed plenty of space, in order to secure strong and well-ripened wood, without which they cannot be expected to bloom freely. Use every means to keep down insects, and let order and neatness be strictly observed. Hardwooded plants, including most of the genera from New Holland, which bloom early in spring, and which, after blooming, received the necessary pruning, will now be so far advanced in their new growth, that any requiring to be repotted should at once have a shift. After turning them out, loosen the outside roots before placing them in their new pots, to enable them to take to the fresh soil the more readily. Keep them close for a few days, especially if the roots have been much disturbed, and damp them once or twice daily overhead; water carefully at first, taking pains to insure the old ball having its proper share until the roots are established in the new soil. Attention at this season should be directed to the stock of plants intended to furnish the supply of bloom through the next winter, as it is requisite plants should complete their growth early for this purpose. Among Heaths, those which flower through the winter should also be encouraged to complete their growth, as they are great favourites in most places, a considerable number of such kinds as E. hyemalis, Willmoreana, gracilis, vernix, regerminans, &c., should be grown. Keep Epacrises under glass till their growth is complete; but more air and light should be allowed them, increasing it as the wood gets firmer. Towards the end of the month they may be placed out of doors in an open situation, but where they can be protected from heavy rains.

STOVE.

Stove plants which are intended for the decoration of the conservatory in autumn should now be carefully looked over, moving such as are likely to want more pot room, with a view of having the pots well filled with roots before the plants are required to flower; keep also the shoots tied out rather thinly, and expose the plants to as much sunshine as they will bear without scorching their foliage, in order to keep them low and bushy. Give clean weak manure water to young growing specimens, and repot any that are intended to have another shift this season.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Size of Gardens.—We are thus far gratified by the attention excited by what has lately been stated about the sizes of gardens, and the impossible returns expected from small ones. We know some very comfortable places where the kitchen garden is far too small to supply the establishment, but all concerned are satisfied, simply because Potatoes, Carrots, Turnips, and even most of the Cabbages are, with the exception of a few early ones, grown in the open field. Many of our roots are thus obtained sweeter and better, though not larger, than in an old kitchen garden. We hear of a number of other cases where the proprietors say, "We must not expect impossibilities, get what you can, and then we will purchase what you cannot produce for us." In the last ten years we could remember at least twenty cases in which clever, superior gardeners, left employers whom they would gladly have served, merely because they saw plainly that with the ground allotted to them they would every year be less able to meet the wants of an increasing establishment; and because, though the matter was more than hinted at, no remedy was forthcoming. They thought it more prudent to leave when all was going smoothly, than be obliged to leave after any unpleasantness about shortness of supplies. Some employers, like these, have expressed their wonder that a gardener should have left them—"Liked him much; never had a cross word with him; never, in fact, had occasion; offered him more money; would have done anything in reason; were perfectly satisfied, but could not make the garden ground larger." That was just the reason; an acre or even half an acre of ground would have made all the difference, were it only surrounded by a wire netting fence in the corner of a field.

It is pleasant to know that the heads of an establishment are satisfied; but the prudent man knows that repeated complaints of short supply at the tables of the establishment may in time turn the satisfactiou of an employer almost to dissatisfaction. A good display in the dining-room is all very well, but that will not atone for scarcity and lack of variety at the other tables in the house. After some experience we have come to the conclusion, that for a gardener to be comfortable and respectable in his position, he must have the means of giving a varied supply according to the season, not only to the dining-room, but to the other eating-rooms, be it steward's room, nursery, or hall—to glut, as it were, at least to give plenty to the head of the kitchen; and if that cannot be, then to have it fully recognised that you merely produce what your ground will give, and if more is wanted, the market must be resorted to, especially for early vegetables. It is no drawback to a gardener's reputation that Potatoes appear in the markets from Cornwall and farther south before his out of doors are half grown. We can only grow them better for the parlour by glass and other protection.

The matter has been brought more before our notice in consequence of our having been on two days a few hours from home, and having seen some large kitchen gardens, two of which though large were fully cropped, whilst another had plenty of uncropped ground, with whole quarters left for winter vegetables; whilst we had to think where we could find a piece on which to sow the first Cabbages; for almost every bit was crammed, and then we could hardly have enough. Of course in large gardens there is more space to go over, but there is not the same scheming necessary to produce as many crops as possible off the same piece of ground.

Cottagers and allotment-holders often run us hard in making the most of the ground by adopting the simultaneous cropping system—that is, having two or three crops on the same ground at once, or one crop quickly following the other; for instance, this season our old Cabbage quarter has been thrown into wide bed trenches for bedding plants, and is now used for Celery, with Peas on the tops of the ridges. This is the successful mode, but frequently when these trenches were made early we put a little hot dung in them, planted early Potatoes just sprung, with Lettuces and Radishes between the rows. The Radishes and Lettuces with a little protection were just cleared off in time to make way for the Potatoes, which came in early; and with an additional layer of rotten dung, the ground they occupied made an excellent bed for three or four rows of Celery, which was tied up. The Pea ground was not encroached upon for earthing-up until the Peas were gathered, whilst they gave the exact shade required by the Celery in the earliest stages of growth, as in the autumn it needed none. This Celery ground would most likely bear Onions the year following, and be cropped in autumn with Cabbages to stand all next season and over the second winter, the ground then coming in for Peas, Potatoes, and Celery again.

Here we would notice, that many cottagers in this neighbourhood take up their Potatoes before they are very ripe, and

follow with Winter Greens and Turnips, which is, so far, a good plan. Many, however, cut up their Cabbages of the autumn planting even before they are firm and well-hardened in the centre—the state in which we like to see Cabbages at a working man's table—and then follow with fresh young plants of Savoys, or other winter vegetables. Now, if the ground is at all good, or if soapsuds, dish washings, and other fertilising agents can be poured on the Cabbage ground, we have great doubts if anything else will yield the same amount of well-flavoured vegetables as these Cabbage stumps. On some of our first-cut Cabbages we can count four or half a dozen young ones, which will be good firm Cabbages by-and-by, and these will be followed by younger ones, which will produce young Greens during the greater part of the winter, if it be not very severe; in fact, until we clear them off in spring. We like young Coleworts, which we shall plant-out directly, placing them about a foot apart, and they give a fine supply towards the end of autumn and the beginning of winter; but even when they are thus thickly planted and growing vigorously, we do not, space for space, cut the same weight and quantity as we generally do from the old Cabbage stumps. We have been told that the young Coleworts, &c., are sweeter and more tender, but we failed to perceive the difference. Of course, if the old Cabbage stalks were dried-up and stunted they would be hard, but if moderately cared for, the ground surface-forked, manure water given, or a little manure thrown in among them, we are convinced cottage gardeners would find no Greens more profitable than the old Cabbages. Those who like Cabbages firm and soft for the most of the year, will not be disappointed if they keep the Cabbage stumps.

This brings us to the *sowings of Cabbages*. The first sowing of such kinds as Atkins's Matchless, Shilling's Queen, and Enfield Market, we like to make from the 3rd to the 6th of July, following twice afterwards at intervals of a fortnight. If the first sowing receive no check there is little chance of the plants running to seed. That, as in the case of Celery, is more owing to checks than to mere early sowing. From this sowing fine crisp Cabbages are obtained early, and we know nothing more delicious than such a Cabbage just beginning to be firm, and showing the blanched white in the centre. Some of our readers are unfortunate with their Cabbage seed beds. If they sow in dry ground, as it is now with us, the seeds are parched, and come up irregularly. If they water after sowing, the ground, if at all stiff, is apt to cake, and enclose the seeds in a waterproof coat, which excludes the air, and in sunny weather there will be cracks and chinks. It is never advisable, therefore, to sow in very wet ground. When the ground has been too dry on the surface, we have adopted two methods, generally giving the preference to the second. In the first case we tread and rake the ground when mellow after digging, and then water it, leaving it alone until the surface is rather dry. In the second case we prepare the ground in a similar way, and scatter the seeds on the fine surface, then give a gentle pat all over with a clean spade, finally watering through the rose of a watering-pot, giving sufficient to moisten the soil properly, but not excessively, and coming over with the rose two or three times, so that there shall be no running of water on the surface. In a couple of hours or so after this watering, when the surface is hazelled over, we follow with a covering of light, riddled, dryish soil—say about one-eighth of an inch in thickness. The seeds have thus a damp but not too wet a bed, to swell and germinate in, and the dry surfacing secures warmth, by arresting evaporation and the cracking and hardening of the surface, which would be the results of a rapid evaporation from a smooth, damp surface. Of course, when the soil is sufficiently moist, there is no need for such nicety; but when attended to there is every chance of uniform germination and fine healthy seedlings. It is always best not to sow very thickly; but here we may recommend what we rarely practise, as for reasons already stated, our seed beds are always too small, so that we are forced to thin out quickly in order to keep the seedlings sturdy. Last year we heard a great many complaints about bad seeds, and dishonest seedsmen. We believe that in nine cases out of ten the fault lay with the sower.

Hoeing, planting, and watering other crops were our principal operations in the kitchen garden, not forgetting what we presume will be a final hoeing to the main quarter of Onions. There was hardly a small weed to be seen, but a Dutch hoe carefully run between the rows would cut up any invisible ones, and keep the surface loose, thus preventing cracking. Bent down the necks of the second lot of autumn-sown Onions, to increase the size of the bulbs, watered young beds of them for salads, and sowed more for a similar purpose. Sowed also a bed of Early Horn Carrots for autumn and winter use, and successions of Lettuces and Endive, as these can be planted in any corner when ground is scarce. In front of a fence or wall with a north aspect is a good place at this season, or the north side of a raised bank. We have sowed Endive for the main crop. In the end of the month we shall sow more sparingly, as when the plants from this sowing pass the winter, they come in useful in spring, before the Lettuces are sufficiently hearted to be at their best.

In all sowings when the ground is dry, we recommend allotment holders to follow less or more the plan recommended for Cabbage seed, and, unless they are more fortunate than we are, also to net, or adopt other means of *protecting their seed-beds from birds*. We have good beds of Lettuces, Coleworts, &c., just now that have not been netted, but we watched them every day, and some flag-like pieces of black cloth were stuck in the bed, which for the time frightened them. We saw small looking-glasses suspended over seed beds the other day in a large garden, and they were said to be very effectual. We found them useful many years ago. We could not find out the address of the maker. Small glasses, say 3 inches by 5, in a lead or metal frame would not cost much. We trust this may meet the eye of some one who will be able to give more definite information on the subject, as provided deterrents could be made to suit one's purpose, anything would be better in a garden than the poison pellet, or the report of a gun, so inconsistent with the quiet that should ever be associated with the garden.

Decayed Manure and Leaf Mould.—We are becoming short of these. We have begun bottoming a rather deep earth pit which has not been so summarily treated for three years, and we shall obtain a fine lot of material which the passer-by would have known nothing about. We have lately cleared off from this pit a fine crop of Potatoes, which were at first protected by old sashes and litter. The gardener makes a mistake if he become satisfied with hot water for everything. Without such beds to go to, we might look out in vain for materials for mulching flower beds, leaf mould for compost, &c. Another matter—It is always bad policy to have much short grass or stable litter lying about doing nothing. We have a rather large heap of grass and some litter now, and we shall soon have it out of sight, well mingled in this hole; and covered with rotten dung and soil, it will be of use for many purposes, and afford material for giving heat, by mixing, for late autumn and early spring crops. Our next lot of short grass, we shall use for bottoming our rubbish heap, which will cause it to heat, and in varied layers will make it rich in nitrogenous matter. This heating helps to kill many weeds and seeds of weeds, and thus used the necessary rubbish heap becomes an excellent enriching compost. Even if the supply of fermenting material is good, it is generally bad policy to have huge heaps lying about doing nothing. It conjures up ideas that it might as well be employed elsewhere.

ORNAMENTAL DEPARTMENT.

Besides the usual routine of grass-cutting, we shall only refer to three things especially in the ornamental department.

We have, in the first place, been putting in a lot of various kinds of *Pink cuttings and pipings*. These will strike well enough in sandy soil on a shady border under a hand-light, or a cover of paper and calico. When dispatch is desired, they strike more quickly and make stronger plants with a little heat below them. We prepared, therefore, a bed of grass and litter about 15 inches deep, trod it rather firm, covered it with 3 inches of half-rotten leaves, and then with a layer of somewhat rough soil, followed by finer, and road sand on the surface. We covered with hand-lights, and as the spot was sunny, shading will be necessary by day, with the glasses shut, and a little air must be left on at night. In such a place Cloves and the hardier Carnations strike well, and thus save the trouble of layering them. Nothing yet equals this tribe of plants for the bouquet, vase, or goblet of cut flowers, and quantity and rich scent will under such circumstances be more thought of than fine shape and quality. Many of the best, however, bloom freely in their second year when moderately well treated. As previously remarked, we rarely use a knife in making such cuttings, but catch the shoot below a joint in the left hand, and pull it out of the joint by the right hand; generally it then comes out with a cleaner and clearer base than any knife could make. If a little film should adhere, that may be removed by a sharp knife; but out of some hundreds the other day the knife was never required, as the cuttings or pipings were short and

robust, owing to the dry weather lately. There was little necessity for shortening the points of the leaves, as under such circumstances when left untouched they root all the sooner, if shading and air-giving be properly attended to.

The second matter was watering, and chiefly the Calceolarias and the Verbenas. The different-coloured Scarlet Pelargoniums had but little water given, as the earth about them was moist beneath, not warm enough to promote rapid growth and free blooming, and watering would if anything have made the ground colder. We have nowhere as yet seen well-bloomed beds of Scarlet Pelargoniums out of doors, except where they had been turned out as good flowering plants. A few sunny days will enable them to overtake the Calceolarias that delight in a moister and cooler soil.

To keep the ground cool and moist about them we have mulched, with the rotten dung referred to, the most of our Calceolarias, having a vivid recollection of the dryness and the heat of the last summer. This we did by breaking up the manure rather finely with the points of a fork, and spreading it thinly by the hand, after being laid in openings in small spadesful. If the season threatens to be dry, we shall serve Pelargoniums in the same way when once the ground is more heated. What will come to the outside of beds and borders will pass through an inch sieve. This plan is good for saving watering.—R. F.

COVENT GARDEN MARKET.—July 7.

Supply and demand are about balanced as regards English produce; foreign produce is somewhat in excess of our requirements, and inferior in quality. There have been large arrivals of Potatoes, both by rail and water. Old ones are now neglected; the new meet with a fair demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	0	0	to 0	0	Melons ..... each	3	0	to 8	0
Apricots ..... doz.	2	0	3	0	Nectarines ..... doz.	6	0	15	0
Cherries ..... lb.	0	6	1	0	Oranges 100	4	0	12	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	12	0	24	0
Currants .... ½ sieve	4	0	4	6	Pears (dessert) .. doz.	0	0	0	0
Black ..... do.	0	0	0	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	6	0	10	0	Plums ..... ½ sieve	0	0	0	0
Filberts ..... lb.	0	0	0	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	1	0	1	6	Raspberries ..... lb.	0	6	0	8
Gooseberries .. quart	0	3	0	6	Strawberries .... lb.	1	0	2	0
Grapes, Hothouse . lb.	2	6	8	0	Walnuts ..... bushel	10	0	16	0
Lemons 100	6	0	12	0	do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	6
Asparagus 100	3	0	6	0	Lettuce ..... score	1	0	1	6
Beans, Kidney .. 100	1	0	0	0	Mushrooms .... pottle	2	0	2	6
Beet, Red ..... doz.	3	0	5	0	Mustd. & Cress, punnet	0	2	0	3
Broccoli ..... bundle	0	0	0	0	Onions .. doz. bunches	6	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	0	0	0	0	Peas ..... quart	0	6	1	6
Carrots ..... bunch	0	8	1	0	Potatoes ..... bushel	4	6	6	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	4	0	7	6
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	6	Rhubarb ..... bundle	0	4	0	0
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	1	0
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	8	0	0	Tomatoes ..... doz.	2	0	3	0
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	8	1	0
Horseradish .. bundle	3	0	5	0	Veget. Marrows .. doz.	0	0	0	0

TRADE CATALOGUE RECEIVED.

J. J. De Beucher, Rue Carnot, 105-107, Antwerp.—*Descriptions of New Seedling Variegated Zonal Pelargoniums. With Coloured Plate.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week

Books (*A Beginner in Botany*).—Henfrey's "Rudiments of Botany."

Pyrethrums (*D. H.*).—They will be fully treated of in an early number.

Select Roses for Covering Arches and Pillars (*K. M. K.*).—"'Which are the best eight Roses for covering wire arches and for pillars?' is a question somewhat vague. Nothing is said as to whether summer Roses or autumnal ones are required, I presume autumnals are desired. I should select from the following:—Acidalie, the Red Bengal, Gloire de Dijon, Céline Forestier, Baronne Prevost, Triomphe de Rennes, Duc de Cazes, Anna Alexieff, and Ophirie. With regard to the stock, I think the Manetti is the best for climbers.—W. F. Radclyffe."

Aphides on Roses (*A Lady in Cheshire*).—Syringe the trees with tobacco water made by pouring at the rate of a gallon of boiling water on each 2 ozs. of tobacco, letting it cool, and then straining. Mulch over the roots of the trees, and keep them well watered in dry weather. Repeat the syringing as often as an aphis is found on the Roses.

Roses to Bloom in January (*H. M. K.*).—It is very difficult to have Roses in flower at that season. Last year's cuttings would be most suitable. They should be taken up now with good balls, potted, placed in a cold frame for about ten days and shaded, keeping moist; afterwards expose them fully, placing them in a warm situation, and pinching off all flower-buds. The old plants should be treated in the same way, setting them near a south wall, and keeping them rather dry at the roots, so that the leaves may fall, while the shoots are prevented from shrivelling. In that position they should remain for six weeks; then repot them in a compost of two parts turfy loam, one part old cow dung, or well-reduced manure, and one part leaf mould, with one-sixth part of sharp sand. They should be kept rather dry for a fortnight, then prune them, and place in a cold pit or frame, setting the pots on coal ashes. They ought to be sprinkled with water twice a-day and kept rather close, but give air enough to keep the temperature from rising above 75°. When they have shoots an inch long admit air day and night, keep them well supplied with water, and frequently sprinkle their tops. They may remain in the pit or frame until the nights become frosty, and even after that if protection from frost be given, but when that cannot be afforded they should be removed to a house having a night temperature of from 45° to 50°, and 55° by day, with a rise of 10° or 15° from sun heat. To bloom the plants a night temperature of from 50° to 55° will be required. They cannot have too light and airy a position, and the aphis must be destroyed by fumigation with tobacco, and mildew by dusting with flowers of sulphur. As your plants are not prepared, we have little hope of your success, but you can, nevertheless, try, starting half the plants as above, and the other half early in November, giving for the first fortnight a night temperature of 45°, and then increasing it to between 50 and 55° in another fortnight, at which temperature keep the plants until they come into bloom.

Garden Wall (*Sussex*).—The wall should be 12 feet high above the ground line, as that height is the most suitable for the majority of fruit trees. We consider it very desirable to have the walls wired, but the wires ought to be so fixed that they will not be farther from the wall than three-quarters of an inch, and better if only half an inch. The foliage does not appear to like the current between the wires and the wall, and the nearer the wires are to the wall the better, so long as a sufficient space is left for passing the tying material between the wires and the wall. No. 10 galvanised wire is best, and for Peach and Apricot trees the wires should be 3½ inches apart, or in every course of bricks; whilst for Plum, Cherry, and Pear trees fan-trained, the wires may be 6 inches apart; for Pear trees trained horizontally they should be 1 foot apart.

Heating a Small Greenhouse (*S. E. A. A.*).—We refer again to your case, page 431, and we advised a brick stove because the place is small. We had no idea of your having a flue. A small iron stove, costing with smoke piping from 50s. to 60s., would answer the same purpose, but the heat is not so kindly as from a brick stove. The brick we merely substitute for the iron. If you could put the stove in the middle of the north side, all the better; if not, it will do at the north corner marked ×. The brick stove should be 28 inches square, and from 3½ feet in height. If the width in the corner were rather too much for the narrow house, you could borrow a piece from the wall. Lay out the square named on the floor with brick on bed. In the centre of this, in front, fix a close-fitting ashpit door. Mark out a space 7 inches wide, and to within 10 inches of the opposite side; that will be the base of the ashpit. Build all round until you rise a little higher than your ashpit door, and place bars across for the bottom of the fireplace, which is to be 8 inches wide and 8 inches deep, formed of fire bricks, or four lumps of fire clay. Build up with brick to the necessary height, and then fix the furnace door—a double one; use brickwork for the necessary height above, and cover at top with a thick piece of iron or a slab of stone, and in either case have an evaporating pan. Three or 4 inches from the top have a 4-inch pipe to go through the back wall, and rise outside as a chimney. With close-fitting furnace doors, nothing more will be needed; but if the ashpit door cannot be well regulated, a thin slab of fire clay should stand a few inches in front of the chimney pipe, so that the smoke and heat can pass by the sides instead of more directly. With a close-fitting ashpit door this is not needed. The bricks should be laid in good mortar, the fire bricks and lumps with fire clay. Coke or the best cinders only should be used, and in cleaning and lighting, the ashes should be damped previously, to prevent dust. We are presuming that the furnace and ashpit doors are inside the house. With a little more labour you could have these doors outside the house, by cutting out a part of your back wall, and thus you would save room inside the house. In such a case, however, it is well in stoves not to have the feeding door and the outlet chimney on the same side. You could easily have the chimney from the top or the opposite side, and take it up the back wall of the house, and so out at the roof. We once had a stove which worked well, and from the want of an iron plate or a flagstone we covered the top with tiles, supported on flat iron bars, and then with brick on bed set in fire clay. However you build such a stove, it should not have a fire in it for a fortnight at least, as then the mortar, &c., will be well set. Such a stove would give heat enough for a house three times the size, and no other plan is so cheap and simple. By feeding outside you will have no dust. What we stated as to piping would be ample in your case. The rules for calculating are very varied, and a great many circumstances must be taken into consideration, but almost any description of house may thus be calculated:—To the whole surface of glass exposed add one-third, then multiply by the number of degrees the house is to be kept at above the external air, the product, divided by 190, will give the quantity of piping required in superficial feet. The mere number of cubic feet of air enclosed, as to which you wish information, would be no guide, as a house bounded by walls would be different from a house like a hand-light—

glass all round; but we may state that for a lean-to house, dividing the cubic feet of air by 30, will give the number of feet of 4-inch piping, sufficient to keep the house at 60°, except in very cold weather. To keep such a house at 70°, divide the cubic feet of air by 20. The large conservatory at Chatsworth has been kept at 60° with 1 foot of 4-inch piping to 30 cubic feet of air; but this result is greatly owing to the bulk of air enclosed. In low span-roofed houses, glass all round, it would require 1 foot of piping to from 18 to 20 cubic feet of air. The size of piping generally goes in the ratio of 2, 3, 4. Thus, 200 feet of 4-inch piping will be equal to 300 feet of 3 inches, and 400 feet of 2 inches. The smaller sizes are sooner heated.

Early Strawberry (*K. M. H.*).—Vicomtesse Hericart de Thury.

Growing Mushrooms in a Cow House (*M. L. D.*).—Than your four stalls in a dark, or almost entirely dark cow house, no place could be better for Mushroom beds. Without other heat you cannot force well, except from the heat of the beds. The best material to use would be three parts horse droppings, one part short litter, and one part turfy loam in rough pieces about the size of eggs. We have scarcely ever wanted Mushrooms for many years, and we never could make a bed of horse droppings, but were glad of some for surfacing the bed. The next best material is well-wrought manure, such as gardeners in general use for a Cucumber bed, and a couple of inches of droppings on the surface. For spring and autumn, a bed of some 12 inches of droppings would be ample, and less would do for summer. If the bed is a mixture, as above, the depth should be at least 15 inches; and for winter it should be from 18 inches to 2 feet in depth. With the four stalls we would have four successions. In winter you must keep the beds warm with dry covering over them, and in very cold weather you could have a heap of fermenting dung, or dung and leaves, in the passage behind the stalls, and this would give a good preparation for material for the bottom of a fresh bed. With such a dark house, and, we presume, rather thick walls, we should have no difficulty with Mushrooms. Provided the material is plentiful, the fermenting material in the passage would maintain a warm humid atmosphere in the place during winter. In summer it would be necessary to sprinkle the walls and floor to keep the place cool, and avoid keen draughts of air. One essential is not to kill the spawn with too much warmth, and another is neither to starve it with dryness, nor flood it with moisture. We presume you understand these points.

Protecting Wall Fruit Trees (*W. R. B.*).—The best moveable protection for a Peach wall would be calico sheeting, which you could pull up and down. The cheapest permanent protection is a house of glass and wood, in the orchard-house style, using rafter sash bars and wide glass, and thus dispensing with heavy rafters and moveable sashes. We presume you know how these are made. The cheapest moveable sashes, such as you see advertised in our columns, will cost much more, but then you can move them from place to place as you like.

Ventilating an Unheated Peach House (*J. R. W.*).—If you have no means of making ventilators in the back wall, you will require an opening at the apex, equal to from 10 to 12 inches all the way along. You will need the same in front. If the proposed windows are to be of glass in front, then all will be well; but if they are to be wood, then we would dispense with the bricks, have fixed glass where the ventilators are shown to be in front, and wooden ones of 10 or 11 inches wide below them, nearer the ground; but your plan is sure to answer. Glass ventilators are not so good for folding down as wooden ones, still they may be fixed by rods to open only certain lengths.

Tricolor and Bicolor Pelargoniums in a Frame (*Q. Q.*).—The colour of both would be improved by the lights being taken off entirely.

Mastic L'Homme Lefort (*Idem*).—The mastic is successful as an application for budding Roses or any other plant, but it is safer to tie slightly before applying the mastic.

Lobelias (*Idem*).—There are many now like L. cardinalis, but much handsomer, they are also of stronger habit, and are more hardy. Among them the following may be instanced:—Comet, Dazzle, Glitter, and Vivid. Lobelia Queen Victoria answers to your description.

Fruiting of the Indiarubber Plant (*B. H.*).—This is not of very common occurrence. We have, however, seen a good many examples of its having fruited, especially during the past winter and spring, chiefly on plants which had at some period been checked in their growth, as in your case, by losing the point bud, or in consequence of the thorough ripening of the wood during the hot summer of 1868. Stunted or half-starved plants also produce fruit freely.

Bigarreau Cherry Casting its Fruit (*Amateur*).—We think it will be advisable for you, and most satisfactory, to take up your Cherry tree carefully in the beginning of October, saving all the roots you possibly can, when, after securing proper drainage, if necessary renew the soil completely around its roots to the depth of 2 feet or so. Allow the tree liberty of action for its branches, prune but sparingly, and we doubt not you will be repaid for the trouble.

Rose Leaves Spotted (*Idem*).—Your Rose trees, judging from the leaves sent, are suffering from the effects of cold—cold weather and cold, sour soil. Remedy the latter.

Liquid Manure for Out-door Vines—Thinning Berries (*Idem*).—The best liquid manure for Vines is that from a cow shed. They might be supplied with it once a-week, diluted with water, or better on a rainy day, from the time of the setting of the berry to the commencement of colouring. Quantity must be entirely regulated by the size and strength of the plant, and the extent and quality of the soil in the border. They will stand much in a well-drained, porous soil. Commence to thin the berries on the bunches as soon as they are set. The operation may be finished at once, or repeated. The object is to this, so that the berries when fully grown may not interfere or crowd against one another to prevent their swelling to the full size.

Planting Vines in an Inside Border (*Reader*).—The best time for planting Vines is during this month, and the best Vines for planting are those which have been started from eyes in the spring of the same year, which in July, if properly managed, should be fine, healthy, free-growing plants in 10-inch pots, and from 4 to 6 feet in height. They should be planted out before the roots become much matted round the sides of the pot, so that in planting the roots may be but little disturbed, and the plants continue to grow unchecked in a most luxuriant manner. Vines planted thus, having their roots so well established in the soil before winter, are capable of bearing, and would bear, fruit as well in the following spring as if they had remained in a pot. Having regard, however, to the permanent and future condition of planted-out Vines, it is not policy to allow them to bear fruit. To plant in September or October is somewhat too late, as by that time the natural season of the growth of the Vine is nearly over, so that the Vines can establish themselves but little in the new soil until the following spring. To excite growth so late in the season, and during winter, by littering, watering, &c., will prove not only useless but positively injurious. The littering is useless, and the watering injurious. Your efforts ought rather to be to keep the roots warm and dry, so as to secure the early ripening of the wood, for by such means only can your object be attained. Cutting back the canes and growing them on again must depend altogether upon their strength. Vines break all the stronger by being allowed to do so naturally—that is, with as little artificial assistance as possible.

Putteridgebury (*A Gardener, Herts*).—We know nothing as to the gardens at Putteridgebury being open to the public, but any gardener may see them by making application in the usual way.

Names of Plants (*S. J. H.*).—The Ribbon Grass is Phalaris arundinacea. The other seems to be Vinca major variegata, or Variegated Larger Periwinkle. (*Miss H.*).—Sedum Sieboldii variegatum. (*F. P.*).—1, Polygonum convolvulus; 2, Solanum dulcamara; 3, Centranthus ruber. (*Margaret*).—1, Lamium maculatum; 2, Rhododendron hirsutum. (*An Old Subscriber*).—2, Spiræa prunifolia. (*G. S.*).—We believe your Iris to be I. versicolor, but your specimen was quite smashed in coming through the post. Iris bicolor, *Lindl.*, usually known as Dietes bicolor, *Sweet*, has clear yellow flowers with a black blotch at the base of each sepal. It is a native of the Cape of Good Hope, and is usually treated in cultivation as a hothouse plant. I. versicolor, *Lindl.*, is a North-American plant, hardy in cultivation, and bears purplish violet flowers, the sepals being whitish at the base with a central streak of yellow.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 6th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 30	30.164	30.131	64	58	60	58	N.E.	.00	Cloudy, cold wind; densely overcast; overcast.
Thurs. 1	30.137	30.120	66	52	60	57	N.E.	.00	Densely overcast; overcast; densely overcast.
Fri.... 2	30.125	30.076	69	53	59	57	N.E.	.00	Densely overcast; cloudy; overcast.
Sat.... 3	30.113	30.078	69	51	61	57	N.E.	.00	Overcast; cloudy but fine; densely overcast.
Sun... 4	30.046	29.963	77	43	63	58	S.E.	.00	Very fine; exceedingly fine; clear and fine at night.
Mon... 5	29.874	29.838	80	59	63	59	S.	.00	Fine, cloudy; very fine and hot; densely overcast.
Tues.. 6	29.963	29.813	76	56	63	59	S.W.	.00	Densely overcast; heavy clouds; densely overcast.
Mean..	30.060	30.007	71.57	52.43	61.29	57.86	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

NORTHAMPTON POULTRY SHOW.

For many years past the Northampton Agricultural Society has had good reason to feel proud of that portion of its annual Exhibition devoted to poultry. In fact, from year to year the public interest in this department seems to increase, and under the management of energetic Stewards, the poultry arrangements have become so complete as to admit of but little, if any improvement. The tent accommodation is excellent, and Messrs. Turners' pens are now too well known to require any special description, and the zeal shown by each member to maintain the Society's present high standard in poultry is most commendable. *Dorkings* invariably stand pre-eminent at the Northampton Shows, and the rivalry in these particular classes is always intense. Many specimens this year of extraordinary size in the Dorking classes proved, however, "as miserable to look at as they were comfortless to themselves," gouty feet being very prevalent. With many birds the ball of the foot was increased to the size of half of a child's playball, and so intensely sensitive, that the slightest pressure between the toes evidently gave the sufferer the most exquisite pain, and the fowls could only move with extreme difficulty. Overfeeding, a contracted range, and too lofty perches, are the causes of this generally incurable complaint. Some very early hatched chickens were shown both among *Dorkings* and *Spanish* fowls. A pen of early Rouen *Ducklings* were equally worthy of note. Mr. Fowler and Mrs. Seamons, of Aylesbury, of world-wide reputation, were competitors,

with five pens of such Aylesbury *Ducks* as have rarely been seen together. Mrs. Seamons taking the first prize, Mr. Fowler the second, and the other three pens being highly commended. For *Geese* Mr. Fowler was first, and Mrs. Seamons second. There were many good *Game* fowls, but the *Game Bantams* were poor.

Of *Pigeons* the entry, though small, was unusually good, Mr. Yardley, of Birmingham, being the successful competitor. The weather was fine and dry, and everything turned out as successful as could be desired. The number of ladies and children on the grounds was beyond precedent.

Dorkings (Any age or colour).—1, R. Wood, Clapton, Thrapstone. 2, J. Longland, Grendon, Northampton. 3, J. K. Fowler, Aylesbury. *c*, J. Longland; R. Sykes, Geddington, Kettering. *Hens.*—1, T. Tatham, Kingsthorpe (Coloured). 2, R. Wood (Coloured). *hc*, J. Longland (Coloured). *Cockerel and Pullet.*—1 and 2, H. Yardley, Birmingham. 3, J. Longland. *Pullets.*—1, J. Longland. 2, R. Wood. *Cock.*—1 and 2, J. Longland. 3, H. Yardley. *hc*, R. Wood. *c*, J. F. Loveridge, Newark-on-Trent; T. Tatham; R. Wood.

Spanish.—1, W. R. Bull, Newport Pagnell. 2, J. Stephens, Walsall. 3, C. Wright, Northampton. *c*, J. T. Parker, Northampton; C. Wright. *Cock.*—1, W. R. Bull. 2, J. T. Parker. *c*, J. Stephens. *Chickens.*—1, J. T. Parker. 2, C. Wright.

Game.—*Cock and Hen* (Any age or colour).—1 and 2, Capt. Wetherell, Loddington, Kettering (Black-breasted Reds). 3, S. Deacon, Polebrooke Hall, Oundle. *Two Hens.*—1, J. D. Blestoe, Grendon Hall, Northampton. 2, S. Deacon. *Cock* (any age).—1, Capt. Wetherell (Black Red). 2 and 3, A. J. Fludyer, Ayston Hall, Uppingham (Brown-breasted Red and Duckwing. *c*, Capt. Wetherell (Black Red).

Cochin China (Any age or colour).—*Cock and Hen.*—1, W. A. Taylor, Manchester. 2, J. N. Beasley, Pitsford Hall, Northampton (Buff). 3, J. Stephens (Partridge). *hc*, J. K. Fowler (Partridge). *c*, J. H. Dawes, Moseley Hall, Birmingham (Buff); J. Stephens (Partridge); J. B. Bletsoe (White); J. Longland. *Cock and Pullet.*—1, W. A. Taylor. 2, J. K. Fowler (Partridge). *c*, J. Longland. *Cock.*—1, W. A. Taylor. 2, J. Stephens (Partridge). *c*, C. Wright (Buff); J. Longland.

Hamburghs (Any age or variety).—*Cock and Hen.*—1, W. A. Taylor (Silver-spangled). 2, F. Collins, Daventry (Golden-spangled). *hc*, J. F. Loveridge, Newark-on-Trent (Golden-spangled).

Bantams (Any age or colour).—*Cock and Hen.*—1, J. D. Bletsoe (Game). 2, W. Barford, Aylesbury (Black Red Game). *c*, Capt. Wetherell (Black Red Game); J. K. Fowler (Game).

Any other Distinct Breed.—*Cock and Hen.*—1, Capt. Wetherell (Crève-Cœur). 2, J. K. Fowler (French). 3, J. Beasley, Chapel Brampton (Japanese Curling). *c*, J. H. Dawes (Houdans).

Geese (Any colour).—1, J. K. Fowler (Toulouse). 2, Mrs. M. Seamons. *hc*, R. Sykes, Geddington, Kettering.

Ducks (Aylesbury).—1, Mrs. M. Seamons. 2, J. K. Fowler. *hc*, Mrs. M. Seamons; J. K. Fowler. *c*, S. Deacon.

Ducks (Rouen).—1, J. K. Fowler. 2, R. Wood, Clapton, Thrapstone. *c*, R. J. Harradine, Kettering.

Ducks (Any other variety).—1, J. K. Fowler (Buenos Ayres). 2, T. G. West, Dallington (Muscovy). *hc*, W. R. Bull, Newport Pagnell (Black East Indian).

Turkeys (Any colour).—1, J. N. Beasley (Cambridgeshire).

Selling Class.—1, J. Stephens (Spanish). 2, J. Longland, Northampton (Dorkings). 3, C. Wright (Buff Cochin-China). *c*, T. G. West, Dallington (Muscovy); H. Yardley; J. W. Gardom, Butterton Park, Newcastle, Staffordshire (Crève-Cœur).

Sweepstakes for Pigeons.—1 and 2, H. Yardley (Satinettes and Almonds). *hc*, E. F. Payling, St. Peterborough (Black Carriers).

The Judge was Edward Hewitt, Esq., of Sparkbrook, Birmingham.

IPSWICH POULTRY SHOW.

There appears to be some peculiar difficulty in conveying poultry to Ipswich in time for the Exhibition, thirty pens of fowls being empty at the hour appointed to commence judging. From the inadvertance of one of the principal exhibitors of Game fowls, five pens of the most meritorious birds had to be passed over, as the birds were shown in pairs instead of as single cocks, and in pairs of hens.

Most of the classes were very good, *Game* and *Game Bantams* particularly so. The *Dorkings* were a very good collection, and the *Spanish* have been rarely excelled. The *Brahmas*, whether Light or Dark-coloured, were of high character. The *Cochin-Chinas*, especially the Buff, were excellent, though many good Partridge-coloured ones are here worthy of mention. French fowls showed a good entry, and the *Hamburghs* and *Polands*, though not numerous, were praiseworthy. The Aylesbury *Ducks* could not be bettered, Mrs. Seamons and Mr. Fowler dividing the premiums. No show could rank more highly in *Pigeons*, and reference to the prize list will show the amount of competition. The weather being fine, the Show was a complete success.

Game (Black-breasted and other Reds).—*Cock.*—1, Cup, and 3, W. Gilliver, Polesworth. 2, W. Boyes, Beverley. *hc*, H. E. Martin (Brown Red); W. Gilliver (Brown Red).

Game (Any other variety).—*Cock.*—1, W. Boyes. 2 and *c*, W. Gilliver (Piles). 3, H. E. Martin (Duckwing). *Hens or Pullets.*—1 and 2, S. Matthew, Stowmarket.

Dorkings (Any variety).—*Cock.*—1, W. Tippler, Roxwell, Chelmsford (White). 2 and *hc*, H. Lingwood. 3, J. Frost, Parham (Coloured). *Hens or Pullets.*—1 Cup and 3, for best pen of Dorkings or Spanish, D. C. Campbell (Coloured). 2, F. Parlett. *hc*, H. Lingwood; J. Frost (Coloured).

Spanish.—*Cock.*—1, J. Laming. 2, P. H. Jones, Fulham. 3, F. James, Peckham. *Hens or Pullets.*—1 and *hc*, F. James. 2, P. H. Jones. 3, J. Laming.

Brahma Pootra (Dark).—*Cock.*—1, and Cup, Mrs. Burrell, Stoke Park, Ipswich. 2, H. Dowsett, Pleshey, Chelmsford. 3, Mrs. A. Hurt, Alderwasley, Derby. *hc*, H. Loe; Mrs. A. Hurt; Mrs. Burrell.

Brahma Pootra (Light).—*Cock.*—1, J. Pares, Postford, Guildford. 2, H. Dowsett. 3, H. M. Maynard, Holmewood, Isle of Wight. *hc*, F. Crook, Forest Hill. *c*, H. Dowsett.

Brahma Pootra (Any variety).—*Hens or Pullets.*—1 and 2, Mrs. A. Hurt (Dark). 3, F. Crook. *hc*, H. Dowsett (Light); Mrs. A. Hurt (Dark).

Cochin-China (Cinnamon or Buff).—*Cock.*—1 Cup, and 2, H. Mapplebeck, Woodfield, Moseley, near Birmingham. 3, Mrs. Woodcock, Rearsby. *hc*, H. Lingwood (Buff); H. Loe, Appuldurcombe; W. A. Taylor, Manchester. *c*, Mrs. Burrell.

Cochin-China (Any other colour).—*Cock.*—1 and 3, Mrs. A. Williamson (White). 2, W. A. Taylor. *hc*, Viscountess Malden. *c*, J. K. Fowler, Aylesbury.

Cochin-China (Any variety).—*Hens or Pullets.*—1, W. A. Taylor. 2, H. Mapplebeck (Buff). 3, Mrs. Burrell (Buff). *c*, S. Felgate, Ipswich (White).

Crève-Cœurs, Houdans, and La Fleche.—1, P. H. Jones (Houdans). 2, W. Tippler (La Flèche). 3, Viscountess Malden (Houdans). *hc*, P. H. Jones; J. K. Fowler; Lady L. Charteris (Crève-Cœura). *c*, Lady L. Charteris (Houdans).

Hamburghs (Golden-pencilled).—*Cock.*—1 and Cup, W. K. Tickner, Ipswich. 2, J. Laming. 3, F. Pittis, jun., Newport, Isle of Wight.

Hamburghs (Silver-pencilled).—*Cock.*—1, J. Laming. 2, F. Pittis, jun.

Hamburghs (Golden-spangled).—*Cock.*—1 and Cup, J. Laming. 3, F. Pittis, jun.

Hamburghs (Silver-spangled).—*Cock.*—1, Mrs. Burrell. 2, J. Laming. 3, F. Pittis, jun.

Hamburghs (Any variety).—*Hens or Pullets.*—1, W. K. Tickner (Golden-pencilled). 2 and 3, Mrs. Burrell (Silver-pencilled and Silver-spangled). *hc*, F. Pittis, jun.; J. Laming.

Polish (Any variety).—1, J. Laming. 2, D. Mutton, Brighton (Black). 3, Mrs. E. Proctor, Hull. *c*, D. Mutton (Black); Mrs. Burrell (Silver).

Game Bantams (Black-breasted).—1, Cup, and *hc*, W. T. Griffin, Bayswater. 2 and 3, W. F. Entwisle, Leeds. *c*, Hon. Mrs. Paget; J. W. Kelleway.

Game Bantams (Any other variety).—1, H. Loe. 2, W. Adams, Ipswich (Duckwing). 3, Hon. Mrs. Paget (Duckwing).

Bantams (Gold or Silver Sebrights).—1, Countess Winterton (Gold). 2 and 3, W. T. Griffin.

Bantams (Black, White, or other variety).—1, S. S. Mossop, Long Sutton. 2, T. C. Harrison (Black). 3, J. Dawes, Birmingham (Japanese). *hc*, H. M. Maynard (Black); S. & R. Ashton (Black).

Bantams (Any variety).—1, W. Adams (Duckwings). 2, H. Leech, Woolpit (Duckwing). 3, W. F. Entwistle.

Any other Variety not Before Mentioned.—1, J. Laming (Black Hamburghs). 2, Mrs. Burrell (Silkies).

Selling Class (Any variety).—1, H. Loe. 2, D. C. Campbell (Dorking). 3, Mrs. Burrell. *hc*, Viscount Turnour, Shillinglee Park, Petworth (Dorkings); W. K. Tickner (Golden-pencilled Hamburghs); T. Roper (Dorkings). *c*, A. Beaumont, Ipswich; D. C. Campbell, Brentwood (Dark Brahmas); Mrs. E. Proctor (Silver Polands).

Ducks (Rouen).—1, J. K. Fowler. 2, Withheld. 3, F. Parlett.

Ducks (Aylesbury).—1 and 3, Mrs. M. Seamons, Hartwell, Aylesbury. 2, J. K. Fowler. *hc*, J. K. Fowler; Mrs. Burrell.

Ducks (Any other variety).—1 and 3, T. C. Harrison, Hull. 2, S. & R. Ashton, Mottram. *c*, J. Pares.

Turkeys (Any colour).—1, M. Kew (Cambridge). 2, A. Mayhew. *hc*, J. Berners, Woolverston Park (Cross with American).

Geese (Any variety).—1, Mrs. M. Seamons. 2, J. K. Fowler. *hc*, W. H. Horne, Drinkstone (Toulouse).

PIGEONS.

Carriers (Any colour).—1 and 2, R. Fulton, Deptford. *hc*, J. Hawley, Bingley.

Pouter (Any colour).—1 and 2, R. Fulton.

Tumblers (Any variety).—1 and 2, R. Fulton (Almonds and Mottles). *hc*, P. H. Jones (Almonds); R. Fulton (Self-coloured); J. Hawley.

Jacobins (Any colour).—1 and *hc*, P. H. Jones. 2, R. Fulton. *c*, J. Hawley.

Fantails (Any colour).—1, J. Hawley. 2, W. H. Tomlinson, Newark. *hc*, Hon. Mrs. Paget (Black); P. H. Jones; H. Yardley, Birmingham; R. Fulton.

Trumpeters (Any colour).—1, J. Hawley. 2, Hon. Mrs. Paget (Black). *hc*, J. Hawley.

Turbits (Any colour).—1 and 2, P. H. Jones. *hc*, H. Yardley.

Barbs (Any colour).—1, R. Fulton. 2, H. Yardley. *hc*, P. H. Jones; R. Fulton.

Magpies (Any colour).—1, P. H. Jones. 2 and *c*, J. Hawley. *hc*, H. Yardley.

Any other Variety.—1 and *c*, P. H. Jones (Nuns and Manes). 2, Hon. Mrs. Paget (Ice). *hc*, J. Hawley; P. H. Jones (Owls).

Selling Class (Any variety).—1 and *hc*, J. Hawley. 2, P. H. Jones. *c*, J. Hawley; T. Roper (Barbs).

CAGE BIRDS.

Canaries.—*Clear Yellow.*—1 and 2, T. Fenn, Ipswich. *Clear Mealy.*—1, R. W. B. Dix, Ipswich. 2 and *hc*, T. Fenn. *Mottled Yellow.*—1 and 2, T. Fenn. *Mottled Mealy.*—1 and 2, T. Fenn. *Mottled Crested Yellow.*—1 and 2, T. Fenn. *Mottled Crested Mealy.*—1 and 2, T. Fenn. *Belgian.*—1, R. W. B. Dix. *Lizard.*—1, T. Fenn. 2, J. A. Ransome. *hc*, R. W. B. Dix.

Goldfinch Mule.—1 and 2, T. Fenn (Yellow and Mealy).

Selling Class (Any variety).—1, 2, and *c*, T. Fenn (Yellow).

Any other English or Foreign Cage Bird not Mentioned in the Above Classes.—1 and 2, T. Roper (Cockatoo). *hc*, T. Fenn (Goldfinch and Bullfinch).

Extra Class.—*vhc* and *c*, J. A. Ransome (Lizard and Yellow Canaries)

Edward Hewitt, Esq., of Sparkbrook, Birmingham, was the Judge.

KETTERING POULTRY SHOW.

The Show of this year has proved most successful, and far in advance of its predecessor. Most of the classes were well filled, those for *Game*, *Spanish*, and *Hamburghs* especially so. Strange to say, only a single pen of *Brahmas* was entered, but it was good. The *Turkeys* would have been creditable to any show. *Pigeons* were numerous and excellent. The display of *Foreign birds*, for which there were especial classes, was one of the most striking features of the Show. Some exceedingly well-shown Bishop birds, Weaver birds, and a variety of

Parrots, considerably interested the visitors, whilst fine specimens of the Blue and Yellow Macaw were much petted by most of the bystanders. It was one of the most confiding of this species we remember to have seen. The weather being exceedingly good, the attendance was most satisfactory.

DORKINGS (Any variety).—1, J. Longland, Greendon. 2, R. Wood, Clapton. 3, T. Burnaby, Pipewell. *Chickens.*—1, Rev. E. Bartrum, Berkhampsted, Herts. 2, R. Wood. *c*, J. Sheffield. *Hens.*—1, H. Wyman, Broughton. 2, J. Longland. *hc*, R. Wood; O. E. Cresswell, Haoworth Rectory, Hounslow. *c*, J. Sheffield; R. L. Garrat', Thorpe Malsor.

GAME (Any variety).—1 and 2, Capt. J. T. Wetherall, Loddington.

GAME BANTAMS.—1, Capt. J. T. Wetherall, Luddington. 2, J. R. Robinson, Sunderland.

COCHINS (Any variety).—1, J. N. Beasley. 2, J. Barber, Kettering. *hc*, J. Longland. *c*, G R. Chettle, Kettering; C. Houghton, Kettering.

BRAHMAS (Light or Dark).—1, Hon. Mrs. Baillie Hamilton, Ridgmount, Woburn.

SPANISH (Any variety).—1, W. R. Bull, Newport Pagnell. 2, H. Pickles, jun., Esrby, Skipton. *hc*, G. R. Chettle, Kettering; J. J. Sharp, Kettering.

HAMBURGHS (Gold and Silver-pencilled).—1, W. K. Tickman, Ipswich. 2, H. Pickles, jun.

HAMBURGHS (Gold and Silver-spangled).—1, H. Pickles, jon. 2, J. F. Loversidge, Newark.

ANY OTHER DISTINCT VARIETY NOT PREVIOUSLY MENTIONED.—1, Capt. J. T. Wethersll (Crève-Cœur). 2, H. Wynaham, Wawne, Beverley (Crève-Cœur).

ANY VARIETY.—*Chickens.*—1, Hon. Mrs. Baillie Hamilton (Dark Brahma). 2, C. Banberry, Peon Fields, Wolverhsmpton (Buff Cochins). *hc*, J. Longland (Cochins); W. Nottage, Northampton (Partridge Cochins).

LOCAL CLASS (Any variety).—1, Cleaver & Johnson, Kettering. 2, T. Burnaby, Pipewell.

SELLING CLASS.—1 and 2, G. R. Chettle, Kettering (Spanish and Buff Cochin.)

DUCKS (Rouen).—1, R. Wood, Clapton. 2, T. Burnaby. *hc*, R. Craddock, Rushton Lodge.

DUCKS (Aylesbury).—1, B. L. Garrat, Thorpe Malsor. 2, W. Grant, Northampton. *c*, R. J. Harradine, Kettering.

DUCKS (Any other variety).—1, W. Watkinson, Bunghton Farm. 2, J. J. Sharp, Kettering.

GEESE (Any variety).—1, R. Sykes, Geddington. 2, Withheld.

TURKEYS (Any variety).—1, J. N. Beasley, Pitsford Hall. 2, J. Sheffield, Geddington Grange. *c*, M. Kew, Overton.

SWEEPSTAKES FOR SINGLE GAME COCK. — 1, R. Hall, Cambridge. *hc*, Capt. J. T. Wetherall.

PIGEONS.

CARRIERS (Any colour).—1, E. Walker, Leicester. 2, H. Yardley, Birmingham.

POUTERS (Any colour).—1, S. Horn, Kettering. 2, R. T. Payling, Peterborough. *hc*, J. Barber, Kettering. *c*, H. Yardley.

TUMBLERS (Any variety)—1, H. Yardley. 2, C. Allsn, Kettering (Agates, Almond.) *c*, H. Lamb, Kettering.

BARBS (Any colour).—1, J. Spence, Kettering. 2, H. Yardley. *c*, W. Beaver, Kettering.

JACOBINS (Any colour).—1, H. Yardley. 2, J. Spence.

FANTAILS (Any colour).—1, J. Spence. 2, H. Yardley. *hc*, W. H. Tomlinson, Newark.

ANY OTHER DISTINCT VARIETY.—1, H. Yardley. 2, W. H. Tomlinson.

SELLING CLASS (Any variety).—1, W. Besver. 2, W. Barfoot. *c*, J. Spence. H. Yardley.

CAGE BIRDS.

CANARIES.—*Yellow or Buff Norwich* (Clear).—1 and 2, W. J. Toon, Kettering. *hc*, Cleaver & Johnson, Kettering. *Yellow or Buff Norwich* (Variegated).—1, 2, and *c*, W. J. Toon.

LINNET, GOLDFINCH, OR OTHER ENGLISH FINCH.—1, Cleaver & Johnson, Kettering. 2, Mrs. Wallis, Kettering.

PARROT (or other large Foreign Bird).—1, G. Pell, Kettering (Grey Parrot). Extra 1, W. King, Wellingborough (Yellow Macaw). 2, Mrs. Salmon, Kettering (Grey Parrot).

SMALL FOREIGN CAGE BIRDS.—1 and 2, Mrs. Wallis (Bishop Birds and Zebra Waxbills. *hc*, Mrs. Wallis (Weavers, Java Sparrows, and African Waxbills); J. Oakley (Budgregsrs).

RABBITS.—*Heariest.*—1, J. Wilson, Kettering. 2, No competition. *Lop-eared.*—1, Cleaver & Johnson, 2, No competitioo. *Fancy Variety.*—1, W. Flavell, jun., Kettering. 2, J. Roe, Thorpe Malsor.

The Judge was Edward Hewitt, Esq., of Sparkbrook, Birmingham.

SNAITH POULTRY SHOW.

THE Snaith Agricultural Society's Exhibition was held in Mrs. Shearburn's Park on the 1st inst. The Show of Poultry, Pigeons, Rabbits, and Cage birds in connection with this meeting was of a respectable character, and many of the best birds that could be found were brought forward, and those calling for especial notice were a pen of Brown Red Game in the class for "Any variety," and which were awarded what may be termed the champion prize; a Partridge Cochin cock shown by Mr. White; and the single Game cock from Mr. Brierley.

In *Pigeons*, Mr. Thompson's Carriers were good. Messrs. Newbitt may well be proud of the Yellow Turbits to which was awarded the medal for the best pair of Pigeons.

Rabbits were but moderate; but the *Canaries*, mostly of the common Yorkshire variety, were very neat, while the Goldfinches were as good specimens of the English variety as can be seen. The following is the prize list:—

ANY BREED.—1, E. Ackroyd, Bradford. 2 and *hc*, Messrs. Newbitt, Epworth. *c*, F. Sales, Crowle; R. W. Richardson, Meanx Abbey; Rev. G. Hustler, Stillingfleet Vicarage; C. W. Brierley, Manchester. *Cock.*—1, J. White, Netherton. 2, C. W. Brierley. *hc*, F. Sales, Crowle; W. A. Taylor, Manchester; E. Ackroyd, Bradford.

GAME.—1, J. Fletcher, Goole. 2, F. Sale, Crowle. *hc*, C. W. Brierley.

RAMBUNOUS (Golden).—1, J. Rawlinson. 2, G. Holmes. *hc*, S. & R. Ashton.

HAMBURGHS (Silver).—1, G. Holmes.

SPANISH (Black).—1, Messrs. Newbitt. 2, G. Holmes.

DORKINGS.—1, G. Holmes. 2, J. F. Beaumont, Huddersfield. *c*, Rev. G. Hustler.

COCHIN-CHINA.—1 and 2, W. A. Taylor. *hc*, C. W. Brierley.

SELLING CLASS.—1, F. Sales. 2, Messrs. Newbitt. *hc*, S. & R. Ashton. *c*, J. F. Beaumont; J. B. Hepworth.

BANTAMS.—1, C. W. Brierley. 2, S. & R. Ashton. *rhc*, Bellingham and Gill *hc*, G. Holmes. *c*, T. Eggleston.

GUINEA FOWLS.—1, H. Merrikin, Driffield. 2, Mrs. Bradley. *hc*, J. Ingle, jun.

GEESE.—1, J. White, Netherton. 2, Rev. G. Hustler. *hc*, W. White, Crowtrees.

DUCKS.—1, J. White. 2, R. W. Richardson.

PIGEONS.—*Carriers.*—1, R. Fleming. 2, Dr. Thompson, Snaith. *hc*, W. Fowler, Pontefract. *Croppers.*—1, S. Robson, Brotherton. *Tumblers.*—1, J. T. Lishman. 2, Messrs. Newbitt. *hc*, W. Fowler; C. Gravill. *Jacobins.*—1, Messrs. Newbitt. *Fantails.*—1 and 2, Messrs. Newbitt. *hc*, J. Robinson. *c*, J. H. Earnshaw. *Any Breed.*—1 and Medal, Messrs. Newbitt. 2, T. Eggleston, Halifax. *hc*, R. Siddall; R. T. Lishman; W. Fowler; S. Robson. *Selling Class.*—1, R. T. Lishman. 2, S. Robson. *hc*, R. Siddall; S. Newbitt. *c*, R. Siddal.

CAGE BIRDS.—*Canary.*—1, F. Higgins, Pontefract. 2, — Wells, Hadfield. *hc*, G. Briggs, Goole. *c*, — Wells. *Red Cap.*—1, G. Trimmingham. Extra 1, H. Holmes, Cowick. 2, C. Gravill. *c*, F. Higgins.

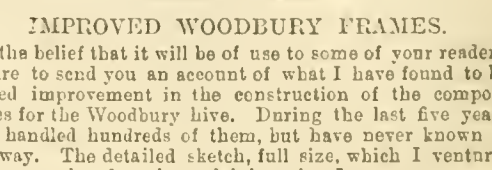
RABBITS.—*Buck.*—1 and 2, C. Gravill, Thorne. *Doe.*—2, J. W. Carr, Topham.

JUDGE.—Mr. E. Hutton, Pudsey, Leeds.

IMPROVED WOODBURY FRAMES.

IN the belief that it will be of use to some of your readers, I venture to send you an account of what I have found to be a decided improvement in the construction of the compound frames for the Woodbury hive. During the last five years I have handled hundreds of them, but have never known one give way. The detailed sketch, full size, which I venture to enclose may be of use in explaining what I mean.

Mr. Woodbury directs "a three-eighth rabbet to be cut out of



the top inner edge at the back and front of the hive." This rabbet is omitted altogether, and the notches for the frames sunk nearly three-quarters of an inch deep. Small blocks of wood which exactly fill these notches are then glued and bradded to the frames; but in order to get sufficient bearing surface for this, the sides of the frames are made a quarter of an inch longer. It will be seen from the sketch that when the bar is in position it will have the appearance of being sunk, but the space available for comb-building is in no way altered.

Advantages:—An increase of strength where the frame was decidedly weakest, increased surface for the fingers and thumb to lay hold of in handling; greater steadiness, and this more especially when the cover is screwed down, since it presses on the tops of the blocks, so that if the hive were turned upside down, the frames could not move.—E. B., *Broughton Vicarage.*

UNITING LIGURIANS.

A STOCK of Ligurian bees in a straw hive threw a swarm on Sunday last; they have refused to work in a super, and the old queen leading the swarm was one I had from Mr. Woodbury four years since, and could not fly, so the swarm returned; however, I secured her majesty, and placed her with a few of her own subjects in a bell-glass partly filled with worker and drone comb. If I put the glass on the top of an

empty hive, remove a strong colony of hybrid bees from their stand, and place the one with the old Ligurian queen and the few bees in its place, shall I obtain a strong swarm? or will the hybrids kill the old queen? If so, will she leave brood in the bell-glass for them to rear another queen from?

The stock which swarmed is still very strong, the bees having returned, but they refuse to enter the super, and I can hear what I believe to be the young queen almost constantly piping. Is she imprisoned? and if so, how is it she is not released now the old queen is gone?—An Old Subscriber.

[It is much to be feared that the hybrids will kill the old queen, but she may lay eggs in the super. Had you removed her own hive, and allowed her to be joined by the returning bees, success would have been certain. A young queen is, doubtless, at liberty within the hive, and the constant "piping" denotes the probability of her soon leading forth a swarm. You cannot do better than advertise any stocks which you may have to spare.]

FOUL BROOD—ITS PRODUCTION AND CURE.

It may be remembered that in the number of "our Journal" issued on the 11th of March last, I noticed a new theory by Mr. Lambrecht, of Bornum, in Prussia, on the subject of foul brood. I have just received a communication from that gentleman, of which the subjoined is a translation, and by which it will be perceived that his alleged discovery is in course of investigation by a committee of German bee-keepers, who are satisfied that he has succeeded in producing foul brood in a healthy stock by feeding it with fermenting honey and pollen, and that he has yet to complete his undertaking by curing this virulent disease within two days. Should he succeed in so doing he will deserve to be rewarded for his discovery, and I, for one, shall not grudge the moderate rate of subscription which he requires for divulging it.—A Devonshire Bee-keeper.

ON THE ORIGIN AND CURE OF FOUL BROOD.

For some years I have busied myself with endeavouring to discover the origin of the deadly plague of foul brood, and having by the aid of chemistry and physiology, after numberless experiments, arrived at certainty on this point, the natural result was the discovery of means whereby in the shortest period the causes and their disastrous effects can be removed. About a year since, I ascertained that the first cause lay in fermenting pollen, by which foul brood is produced, and my apiarian friends then urged me to publish this discovery, certainly not an unimportant one for the science of apiculture, in an article of some length, under the title "Foul Brood amongst Bees: its Origin, and the Means whereby it may with certainty be removed." [Extracts containing the substance of this article were published in The Journal of Horticulture of the 11th March last.] After I had thus settled the foul-brood question, and had discovered as possible causes of the pestilence, besides fermenting pollen—feeding with flour or meal, with fermenting honey, with honey with which grease is mixed, contagion, and, lastly, spreading the pestilence by suffering substances to decompose near the hives,—various views were expressed in the bee-keeping world, and especially against my theory that fermenting pollen is a cause of foul brood. Consequently I undertook to demonstrate the truth of that theory before a competent commission of apiarians.

Mr. Gravenhorst, a bee-master in Brunswick, placed a strong stock of bees during the course of last spring at my disposal, and I commenced carrying out my experiment on the 1st of April. As I believe that the matter will be interesting to the intelligent apiarian, while a cure for foul brood will be welcome and satisfactory to all, I subjoin a copy of the reports of the commission.

First Report.

"Brunswick, April 1st, 1869.

"The undersigned certify that the stock given by C. J. H. Gravenhorst for the purpose of experiment, was found upon thorough investigation to be perfectly healthy, with brood in all stages, and sufficiently populous. A. Lambrecht, in our presence, inserted a comb containing pollen and honey in a state of fermentation within the hive near the brood. The care of the stock was entrusted to Mr. Gravenhorst, who reserved the right of placing it at a distance of two miles from his own stand.

(Signed)—C. J. H. Gravenhorst,
Heinrich Oppermann,
H. Herbst,
H. Wiedewroth."

Second Report.

"Brunswick, April 24th, 1869.

"The persons mentioned in the former report went this day, together with Mr. Lambrecht, to the place where the experimental hive was standing. After examining it, Mr. Lambrecht pronounced the colony to be in the early stage of foul brood. Although there were single larvæ or nymphæ dead and in a suspicious state, yet the opinions of the Committee were divided at to the presence of foul brood. This induced Mr. Lambrecht to give the bees a further portion of fermenting pollen with honey, and to demand that two frames of comb some years old should be inserted. Mr. Gravenhorst was charged with effecting this as soon as possible."

(Signed as before.)

Third Report.

"Brunswick, May 23rd, 1869.

"The undersigned inspected the experimental hive this day. In both pieces of old comb, inserted on May 2nd, they found cells pierced and unpierced with depressed covers, from which, after tearing them open, a sticky, fetid, brownish grey substance was extracted. The Commission decided and expressed their full conviction that foul brood had broken out, especially as decaying larvæ were found also in newly-built drone combs."

(Signed as before.)

Science has solved a difficult problem; the causes of foul brood are made plain, and are known; it has, therefore, become possible to discover means, by the application of which foul brood can be cured in one, or at most in two days, and the fermented vitiated honey again made fit for bees.

The means and the process of cure will be published in the course of this year in a pamphlet, for which purpose a subscription list is opened. Should five hundred subscribers give in their names, the price of a copy will be 4 thalers, Prussian currency (12s.). Names and addresses may be sent to Mr. Gravenhorst, in Brunswick.—A. Lambrecht, *Bornum, near Börssum, Brunswick.*

FAILURES IN BEE-KEEPING—SWARMING versus SUPERING.

Having seen at various times in your valuable publication some accounts and also advice on bee-keeping, I make bold to ask a little advice of some of your amateur correspondents, not only for myself but also for many others, who I presume are in about the same difficulty as myself. Too many of my old stocks are very weak, and no doubt those of many others are the same. I have kept bees for some years on the old or swarming system, and also by taking the honey from the top of the hive in supers, not allowing the bees to swarm. I believe my situation is not a very good one; but be that as it may, the swarming system does not answer so well as it ought, for after swarming the old stock is too often so much reduced as to be unable to recover sufficient strength to encounter the ensuing winter, and consequently the bees die before spring.

On the super system also, in too many cases after a couple of seasons, the bees dwindle away, and in the third year do very little or no work, unless (by means that we know nothing of) they have their old queen replaced. I have bought both swarms and casts, and I invariably find that the casts do the best, if they come in time to collect sufficient to carry them through the winter. Therefore I am obliged to believe it must be a young queen that goes out with the cast. Indeed, I cannot see how it can be otherwise. If the old queens do not go out with the swarms, I am almost sure they do not go out with the casts.

Now it appears to me, that the non-swarming system requires young queens about every two years to do well. Therefore, if any of your bee-keeping correspondents are of the same opinion, will one of them be kind enough to tell me the best way, and with least trouble, to obtain a succession of young queens at least every alternate year?—A Kent Bee-keeper.

[We shall be glad of the opinions of any of our correspondents who may be able to explain the probable causes of failure.—Eds.]

DISLODGING BEES FROM A TREE.

Three years ago a swarm of bees went into a large tree just outside our gate. They cast a natural swarm two years ago; last year they contented themselves with increasing their own colony; this year they are very numerous and strong, and have seemed ready to throw off a swarm for a fortnight, but have not yet done so. These are their doings, now for a brief account of my doings.

A fortnight ago—having previously purchased the tree, I had it cut down the trunk, taking 2 or 3 inches off the two highest pieces of comb inside the tree, thus making sure that I had reached the colonists. On this stump, now 4 feet in height and 2 feet in diameter where cut, I placed a common straw skep, with the entrance of course facing the south, their old and what is still their present entrance being on the ground at the very bottom of the trunk, facing the north-west. A landing board was fixed on the top of this stump opposite the entrance to the straw hive, now secured and properly protected. The entrance to the straw hive I kept completely closed for four or five days; I then opened it, expecting that the bees might abandon their former lowly entrance and go out and in from the top, and ultimately fill the straw hive with combs, &c.; and when her majesty should be there rejoicing in the ample dome (to her) so mysteriously placed on the apex of her old abode, I would remove the skep with a tremendously strong swarm, or rather colony of bees, at some convenient season to my apiary at the garden top. These bright anticipations, or rather hopes, have not and do not seem likely to be realised, for not a bee availed itself of this new entrance either in going in or coming out by it. And they did not seem to be working in the skep at all, so I again closed and completely darkened the entrance to the hive, and they are still going on as if the tree had never been touched.

This is what I have done. Now, what I want is to get the bees out of that old tree stump into a hive, so that I may gradually remove them to my apiary, and take the honey out of the tree, quietly and unmolested by its present inmates, for my trouble. How am I to proceed in order to accomplish this? This is my only question, and I hope you will be able to give me an answer as soon as possible, as I would like them properly housed in good time to provide for themselves during the coming winter.

I could drum, or "drive" as you call it, a swarm out of a hive full of combs, &c., and place that on the top of the stump, and close up their entrance hole at the bottom, if you thought that would do any good.—Old Tree Stump.

[If the bees had taken possession of the empty hive it would only have been by way of super, and the seat of breeding would have remained in the tree stump or "Ktotz hive" as it is styled by the Germans. The same result would probably ensue, even if you placed a full hive on the top. If you must get them out, we see nothing for it but to attack them *vi et armis* by cutting the stump to pieces, excising the combs, and fitting them into a frame hive, into which the bees must then be swept; but this is rather a formidable operation for which no specific directions can be given, and which ought only to be attempted by a skilled apiarian.]

BRITTANY COWS.

In answer to your correspondent's inquiry respecting Brittany cows, I can inform him that, having kept them for many years, I have found them very satisfactory. They are hardy, and do well on poor land, and in winter they do not require so much feeding-up as other breeds, especially the Alderneys. They are far hardier than the latter, and though I do not think their milk so rich or good for making butter, they give in proportion to their size a considerable quantity. One of mine yielded eleven quarts daily at her best time. This of course would be considerably above the average, although I have one at the present time which gives nearly the same quantity. I believe them to be proof against the cattle disease, having never heard of an instance to the contrary, and having known a case in which Brittany cows running with Alderneys escaped, while the latter took the disease. They are said to fatten well, and make good meat.

There are, I believe, two distinct breeds imported, one larger than the other, and this would be the more profitable for your correspondent to try. I have brought them of Mr. Baker, of Fulham, and more recently from Messrs. Robertson, 113, Leadenhall Street, London. Black and white is the common colour, but some are red and white. They are extremely docile, and will bear being tethered where they cannot have their liberty. The one difficulty is with regard to the bull; and "Subscriber" would be wise, if he intends keeping them, and there is not a very small bull of some other breed in the neighbourhood, to keep a Brittany bull.

I have replied at some length, as I think your correspondent will like to have the personal experience of one who has kept the breed.—John Pares.

OUR LETTER BOX.

Thorne Poultry Show.—A correspondent writes that the second prize for a single buck Rabbit was awarded to Mr. C. Gravil, jun., of Thorne. We gave the prize list as we received it.

Colchester Poultry Show.—"In your Journal of the 27th ult., in your remarks upon the Colchester Poultry Show, you say you mistake not if you had seen the birds that took the first and cup in the Dorking class in a selling class, because his feet were bad. I should feel obliged if you would contradict this statement; I bred him myself, and he has never been exhibited before.—W. Tippler."

Rice and Wheat as Food for Poultry (*Young Beginner*).—Rice, either raw or cooked, unless boiled in milk or gravy, is the most wasteful, unprofitable, unsatisfying, and wretched food you can give. It produces the symptoms you name, and, in addition, covers the body of the fowls obliged to feed on it with parasites, which literally tease and worry them to death. We class rice for poultry and sawdust for human beings in the same category, so far as nourishment is concerned. We tried it many years ago on pigs, Geese, Ducks, and fowls; all fared alike, and we buried most of them. The survivors, those that lived in spite of the rice, never throve afterwards, but seemed to have the same brown, shrivelled skin native Indian artists give to their brethren who feed on the same food. Wheat is not injurious to fowls, but it is inferior as food to barley. April pullets kept in confinement will not lay before December. They would lay earlier if they had their liberty. The Brahmas will probably lay first.

Exhibiting Brown Red Bantams (*J. L. D.*).—We cannot be so invidious as to classify them as you request, but any of the following twelve shows will be found among the most prominent of our meetings, and we feel assured will sufficiently test the good qualities of your birds to win at either of them. They are jotted down promiscuously:—Whitehaven, Kendal, Jedburgh, Hull, Bath and West of England Society, Beverley, Middleton, Halifax, Manchester, Birmingham, Ipswich, Southampton.

Rearing Turkeys (*J. P.*).—If, when you asked our advice, you had told us you intended to rear Turkeys on a small space, we should have advised you not to attempt it. They bear confinement badly, and the proof is, that yours are suffering. They inflate the skin of the lower beak and of the cheek because their nostrils are stopped up, and not as though they were. The sooner you can give them the run, the sooner they will recover. There is virtue in the smell of new-mown grass; and in the present state of the heads of your Turkeys, if you could induce a moderate attack of "hay fever," it might be beneficial. Wash their nostrils with cold water and vinegar, give them one, or in bad cases, if the bird is not too weak, two pills of camphor the size of a garden pea. Let them have no drink but ale. They will soon like it, and from the time they have acquired the taste, they will eschew water. It will not, however, be wise to give them all the liberty the fresh-mown space affords. Turkey poults are very mother-sick, and a hen Turkey will wander through the dewy grass at early dawn, starting with her thirteen "olive branches." They will perish at the rate of two every hour till the sun is up, and she will return full and triumphant; she will "rest and be thankful" while three or four remain. She does not make troubles. Confine her under her rip in the sunniest spot you can choose. Do not give her her liberty till the sun is up, and the grass is dry. Use oat, pea, barley, and bean meal mixed, and add to it, when slaking with milk or water, lots of onion-tops chopped fine.

Uniting Bees (*M. J. P.*).—Drive the inhabitants of both stocks into the same empty hive, then knock the whole out upon a cloth spread on the ground, and place the full hive over them supported on two sticks to avoid crushing the bees, which will speedily ascend without fighting.

Honey Tasting of Vanilla (*A. B.*).—There is an infinite variety in the flavour of honey, and that collected from lime tree blossoms has a peculiar taste, which, if you are not acquainted with it, may possibly have been mistaken for vanilla.

Swarm Returning to the Hive (*J. V.*).—The queen may not have accompanied the swarm, or she may have dropped on the ground and been lost. In either case it is likely that the swarm will again come forth.

Food for a Cuckoo (*M. M., York*).—Soaked bread and bruised hempseed mixed with it, and hard-boiled egg; but its principal food should consist of raw beef cut small, meal worms, garden worms, caterpillars, and occasionally a snail.

Food for a Blackbird (*V. E.*).—Bread soaked in cold water and squeezed every day, and bruised hempseed mixed with it, may be the usual food; occasionally a little hard-boiled egg, potato and carrot may be added for a change. About twice or three times a-week it should have three or four meal worms, or garden worms, or a little chopped meat, beef being best. Water should be given at once, and always supplied. The bird is very fond of fruit any way.

Food for a Young Owl (*Idem*).—Soaked bread, chopped egg, and scraped meat, scraped or cut up very small, mixed together; the meat should be in the larger proportion. When it can feed alone, meat should be its principal food. The evening is the most suitable time for feeding.

Bottling Gooseberries and Rhubarb Green (*Fruit*).—When the gooseberries are a little more than half grown they must be gathered dry, and after being picked clean put into wide-mouthed bottles, shaking them gently down till each bottle is full. Cork the bottles tightly, set them in a moderate oven, and let them remain till heated through. Beat the corks in tightly, cut off the tops, resin them over, and keep them in a dry, cool place. Cut and peel the rhubarb as for tarts, put it in clean dry bottles, cork them, but not tightly, put them in a pan of cold water, and set them on a moderate fire. When the rhubarb changes colour, and begins to shrink a little in the bottles, take them off the fire, and let them stand till cold; then cork them tightly, and set them in a cool dry place, with the necks downwards, to prevent the rhubarb fermenting. Be careful the oven is not too hot, or the bottles will fly. Cork them tightly when they are quite cold. It is a very good plan to lay a double sheet of brown paper in the oven, and place the bottles on their sides, turning them occasionally.

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 15—21, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
15	Th	Newport (Salop) Horticultural Show.	76.3	50.5	63.4	21	2 af 4	9 af 8	25af 11	26af 11	6	5 39	196
16	F		75.7	49 8	62.8	17	3 4	8 8	after.	50 11	☽	5 45	197
17	S		76.0	51.1	63.6	16	4 4	7 8	57 1	morn.	8	5 50	198
18	Sun	8 Sunday after Trinity. [Show opens.	74 5	50.0	62.2	20	5 4	6 8	13 3	17 0	9	5 55	199
19	M	Royal Horticultural Society's Manchester	75.0	50.0	61.5	22	6 4	5 8	26 4	48 0	10	5 59	200
20	Tu	Fruit, Floral, and General Meeting (Man-	72.9	50.1	61.5	23	8 4	4 8	51 5	23 1	11	6 3	201
21	W	[chester).	73.5	50.6	62.1	19	9 4	3 8	31 6	7 2	12	6 6	202

From observations taken near London during the last forty-two years, the average day temperature of the week is 74.5°; and its night temperature 50.3°. The greatest heat was 94°, on the 17th, 1834; and the lowest cold 37°, on the 18th, 1863. The greatest fall of rain was 1.60 inch.

EARLY PEACHES IN ORCHARD HOUSES.

IT is now generally agreed that our fruit crop of all kinds on the open walls will be small, however brilliant may be the exceptions. Many reasons are urged for this, the chief and most probable of which seems to be the disastrous spring weather during the blossoming period, which rendered profitless those summer shoots which the unusually warm season of last year had ripened. No doubt, however, in light soils, where the aid of hand-watering was not available, even these shoots were somewhat dried up, and will now recover a little, but more than all by a temporary absence of production.

If we bear in mind that nothing exhausts a bearing tree so much as excessive cropping, which exhaustion no artificial stimulants will long correct, we may reach the true reason of many cases of failure this year, especially under glass. Orchard houses are now very common, and the knowledge required to work them fairly is nearly as general, but whether it be over-confidence in the powers of trees, simply because they are in glazed structures, the unreasonable demands of ignorant owners, or that there is yet something to be learnt from the greater experience of others, I may, with confidence, here point out such a certain cause as excessive cropping as one great reason of this season's shortcomings. My experience, as one of the very earliest orchard-house cultivators, decidedly points to this fact, and I have always so carefully regulated the amount left on each tree as to insure a good crop, no matter what the season has been, and this without any aid from hot-water pipes. These would be, however, extremely useful as auxiliaries in almost every instance during such a spring as we have passed through, for the blooming process was performed under very unpropitious conditions everywhere. Here the drenching cold rains filled the houses with stagnant vapour, which the absence of wind prevented our keeping in motion so as to keep the pollen from being glued in. We did not know what to do. If we opened the ventilators, we lowered the already-diminished temperature; if they remained closed, the evil became greater from stagnation. A little artificial heat then would have enabled us to stir up and move the clammy mist, and by admitting top air, to completely renew the atmosphere at our will. Since that period we have had here only partial gleams of sunshine, which often disappeared in damp sea haze, making the very walls of passages white with drops of vapour. What can be hoped for under such conditions, without some artificial appliances and much extra trimming and adjusting?

Nevertheless I am quite sure had not the crop upon my trees been year after year carefully thinned, and less fruit left on them each season than we hear of so often in these and other columns, that nothing would have availed to make a fair amount set. The trees have been regulated every year according to their powers of bearing, and have now acquired a steady habit of production. Thus they are independent of atmospheric changes; nay, expecting that the crop would be short by reason of our early spring weather, I have, from motives of profit, actually called on these obedient cordons to repay me some portion of my time and money spent on them, and have now ripening the largest crop of Peaches and Nectarines that has been borne in these houses for fifteen years. Some diagonal cordons of this mature age are now covered so thickly with fruit as to be a wonderful sight; let us hope they will not suffer too much from this unreasonable demand. When first these diagonals were introduced, it was objected to them that they would soon be worn out. On the contrary, I think it is certain that no trees in pots—much less trained fanwise—could have thus kept up their rate of production for a succession of seasons, and in a year like the present, when the best growers own to a "short crop," supply an extraordinary demand on their vital powers. The cordons have much the best of it in 1869.

It requires no great amount of skill to obtain a heavy crop from potted trees, received from good nurseries in splendid health and vigour, but how long will the same trees continue to bear at this rate? Do we not hear soon of attacks of red spider, of weak buds, and of fruit dropping when stoning? There remains a consolation, and that is, that these trees may bear well next season, simply because they have had an enforced rest. To obtain regular crops, which shall be heavy and well ripened, we must have an extra supply of trees, and allow some of them to rest every third year or so; and this is very easy and inexpensive to do.

The blooming process is exhausting to trees. It is, in fact, more like an act of abdication than of progress. The tree has to reproduce its kind, and make room for another generation. The great heat of last season had probably filled the cellular tissues with an abundance of "reserved sap," and thus prepared an early and free bloom. With us this occurred rather earlier than common, and lasted an unusual length of time. There was also plenty of bloom on the trees, but fearful weather. In the case of trees under glass, now was evidently the time to try my old friend Grin's "last dodge"—to mutilate the flower buds while still in embryo! But alas! my faith was too weak. I recognised the correctness of the principle, but had neither the skill of manipulation required for such a delicate process, nor the power of sight. M. Grin must use glasses of strong magnifying powers: nevertheless he is right, as such a skilful cultivator should be, and we might with advantage thin-out the excess of bloom on our trees—under glass at least. In the open air, except in the case of vigorous Pear and Apple trees, it would be full of risk in uncertain weather. By leaving only the central bloom bud of each cluster of Chaumontel Pears, which set freely, we may calculate on producing those longer-shaped fruits which are most admired, and weigh so much. But I confess to not having practised this thinning of the bloom of Peaches under glass, preferring to reduce the amount as soon as the blossom had set, and to do so with an unsparing hand, and the result has been good.

The Peach crop on the open wall must be a failure in general, and I have heard on the best authority that it is

so likewise on the Continent. Around me there is little or no fruit, and on my close-pruned out-door trees about one-fifth of the usual amount only. Plums are a failure, Apples moderate in number, but Pears show fairly. The cordons are here well stocked. It is amusing to see a large Jefferson Plum tree, fan-trained, without a single fruit, while some ten diagonal Pear cordons of, the very newest kinds, from Mr. Rivers, and occupying about the same wall space near it, are in free bearing, being young, and strictly thinned.

But all this while I am forgetting my usual report on the earliest Peaches in orchard houses.

Notwithstanding the absence of the sun's rays, the fruit is ripening well, and the colour is good. The first Peach which ripened was Early Beatrice (Rivers), and this actually was gathered on the 12th of June, well coloured, but not so large as I should desire; still it is the earliest Peach I have ever gathered, grown as a diagonal cordon on the wall.

The next to ripen was Early Rivers, also on a cordon, and this was perfectly ripe by the 1st of July, and fit to take even earlier. In size all the Peaches of this kind were remarkably even, and all about 8½ inches in diameter. The ground colour of this beautiful Peach is a fine greenish yellow, mottled on the sunny side. The shape is roundish, the flavour pungent and "peachy," and the juice abundant. It is the finest early Peach I have ever seen, and will soon advance to being here a regular June Peach. I should prefer it to Early Beatrice, and shall cultivate it largely. It is here from eight to ten days earlier than Early York, and larger than it this year. Mr. Rivers has other kinds, he tells me, as good, if not earlier, and if so, I congratulate orchard-house growers, for it is very early Peaches which we most require.

The next Peach which ripened was Early Victoria, a kind I had not before quite liked, but this year it is extremely good, well coloured, and of excellent quality. Early York is coming in fast also, and to-day we gather the first regular supply.

This season, therefore, is in nowise backward in its results; so far, I think, on the whole, that Peach-growers will not be disappointed, but that as the summer proceeds they will find their crops ripen and colour fairly. We know very little about the rays which give colour to fruit, but certainly a white sky which fatigues the eyes to stare at is very favourable, even more so than a space of unclouded blue. As I said before, Nature having taken the regulation of the crops this year in hand, no doubt there will be a better season in 1870.

Now is the time to try the close pruning of the summer shoots; they grow rapidly this year, and an excess of wood will only augment October regulation, and half of the wood will be unfit to bear fruit. If the Peach shoots have been stopped to four leaves, then the second growths should be restrained to one or two more. Already we should decide on the shoot intended to be the new fruit-bearer and that which shall be reserved for succession, and be cut back in October. No good pruner likes to make the same shoot the fruit-bearer and the shoot-bearer also, but prefers to have them alternately so occupied; but in this case he will not allow either to extend beyond what will ripen fairly. In this way the "alternate system" of pruning is properly carried out.

I had forgotten to say that a new seedling Peach, No. 22 (Rivers), has just been gathered here of a good size, well coloured, and very early also; but my favourite is Early Rivers. —T. Bréhaut, *Richmond House, Guernsey.*

CENTAUREA CANDIDISSIMA CULTURE.

To few plants has a greater share of attention been given, so far as regards the correct method of its propagation, than to Centaurea candidissima; whilst as usual, when there is a somewhat difficult subject, many different modes have been advanced, all of them more or less meritorious; but, as is generally the case in such instances, the simplest method proves to be the best. "A rum un to strike," observed an acquaintance to me. "Why so?" said I. "Don't know," was the very laconic but unsatisfactory reply; and then came the additional information that "the thing would do nothing but damp-off, no matter how much it was coddled." Oh! this coddling system has caused the death of many a promising batch of other things besides the Centaurea. Well, I confess that I adopted the coddling system myself with the first considerable batch of cuttings of this plant that came into my hands. It happened thus: A gentleman who was the fortunate possessor of a fine stock of this plant, when it was scarcer than it now is, offered me a quantity of cuttings late in the autumn. Although doubtful of my chances of success, I could not resist the offer, and accordingly the cuttings were inserted with the greatest possible care, and the pots were plunged in a brisk bottom heat, when, although every care was exercised in watering, not one cutting survived. On the giver of the cuttings inquiring some time afterwards how I had succeeded, I could not help thinking that his countenance wore a smile of rather malicious enjoyment at the account of my failure. However, an occasional failure, if acting properly on the mind, is but an incentive to increased exertion, and not unfrequently leads to success.

If rightly understood, the propagation of the Centaurea is very simple, and by following a few easy rules, it may be practised with the greatest certainty of success in July and August, as well as early in spring. I shall not dwell upon its propagation at the latter period, as it then strikes as readily as most other plants if the cuttings are placed in a genial, moist temperature, but will only note an erroneous statement, that spring-struck cuttings form the best plants for the ensuing season. My own experience is directly opposed to this, for although glad to propagate it in spring when working up my stock, yet I have never found the strongest spring plants equal in vigour to those propagated in the preceding summer. The method, then, which I practise, is to take cuttings as early as possible in July, and firmly insert each in a thumb pot, with soil consisting of loam, leaf mould, and sand, in equal proportions. Care should be taken to leave an ample depth from the soil to the rim of the pot, to contain water to moisten the whole of the soil when necessary. The cuttings are then placed in a greenhouse, where they enjoy an equable temperature of about 70°, often much hotter in bright days, and are partly shaded by the foliage of some pot Vines, but no regular shading is used, neither is air withheld. The two chief points to observe are care in watering, and a temperature not averaging much below 70°. It is of the greatest importance that the cuttings should be firmly fixed in the soil; a short stick of the same size as the stem of the cutting, tied to it before it is put in, is of great assistance in keeping it steady. By using these sticks, more of the heavy leaves can be retained on the cutting.

When roots are formed the young plants are at once removed into the open air, where they remain till housed with the general bedding stock. A second lot of cuttings is taken off in August with equal success. I am aware it may be urged that July is somewhat early to make cuttings, but in ordinary seasons, if the plants are as vigorous as they ought to be at the time of planting, good side shoots will be formed by the second or third week in the month. The present backward season will, I fear, form an exception, and consequently it would undoubtedly be an excellent plan to retain a few plants in a spare border specially for propagating from; or, better still, if the plant is really hardy, to establish a few permanent plants entirely for a supply of cuttings. A large plant growing here has passed through two winters unscathed, and apparently with increased vigour; it now measures nearly a yard in diameter.

The hardiness of this plant adds to its value. I this year turned the whole of my stock into the open air on the 31st of March, placing a double line of the plants close to the front wall of some pits, but with no other shelter, and as there was a considerable number of them, the space under glass gained by their removal was very valuable. The free growth and elegant proportions of Centaurea candidissima, together with its peculiarly distinct soft grey colour, have justly given it a leading position amongst ornamental-foliaged plants in the flower garden, and if used with judgment, no plant tends more to enliven a design; but its bold appearance also causes it to be a somewhat dangerous plant to use; for a flower garden containing a preponderance of light colours is quite certain to appear so insipid as to afford very little pleasure to the beholders.—Edward Luckhurst, *Egerton House Gardens, Kent.*

VICOMTESSE HÉRICART DE THURY STRAWBERRY.

Having grown this Strawberry for some years, I can fully endorse all "Archambaud" has said in its favour. It is, without doubt, one of the most useful Strawberries we have in cultivation. For preserving, the Vicomtesse Héricart de Thury Strawberry is a great acquisition, both as regards its flavour and its beautiful colour—a quality of no small importance.

If this Strawberry were better known, I may venture to say that it would be largely grown.—J. GARDNER, *Elsham Hall Gardens, Brigg.*

EAST LOTHIAN STOCKS.

HAVING been to some considerable extent the means of spreading the fame of these Stocks beyond the locality where they have been so largely cultivated, I felt very sorry lately to see them depreciated by writers in your columns; not that their excellence as cultivated and described by me and others in the far-famed Lothians of Scotland can be gainsaid by anyone, but because I regarded it as a pity that such splendid decorative plants should have disappointed any one in other localities. Being convinced of their value, I resolved to grow them largely at this place, and planted them more extensively than ever they were planted at any place before; and I am happy to say that in a totally different soil and somewhat different climate, they are more than equal to anything I ever saw in the Lothians of Scotland at this date. The plants are unique in habit, and while the majority are coming into bloom, I have not yet seen a single flower amongst them, and I have no doubt they will in this respect be equal to anything I have previously said of them—namely, have 80 per cent. double. These will last in beautiful bloom till winter, and, if the plants be lifted and taken care of, they will bloom all next summer.

No wonder they have not succeeded in some places if reared and treated as Stocks generally are treated—viz., sown in a bed or pans, never pricked off, and planted out weak and spindling. Let any other bedding plant be so treated, and what would be the result? Many other plants now neglected would, by careful cultivation, become so changed and improved as to be scarcely recognised as the same.

Doubtless some may have been disappointed and deceived in obtaining the true varieties of these Stocks when applying to seedsmen. This should make them more careful in future; still, I am certain the starvation system of cultivating has much to do with the character they assume. I have always bestowed great care in rearing these Stocks, and the results have always been such as more than justified such a course and what has been said in their praise.

Mr. Lees, of Tynninghame, last year proved conclusively that cultivation had an influence on the amount of double and single blooms produced. He planted a certain number of plants from the same sowing in poor dry soil, and some in rich soil; the former were nearly all single, the latter nearly all double.

If, instead of sowing thickly in a box or frame and allowing the plants to become drawn and spindling, and then to plant out in carelessly prepared soil, they were sown thinly in February, then potted-off singly in 3-inch pots, and planted-out in the end of April or early in May in well-prepared and rich soil, we should hear less of their lateness of blooming and of single blooms. This is a very late season, yet these Stocks will be fine here this month, and few if any flowering plants stand all sorts of weather so well. Few, if any, plants are so well worthy of extra trouble, whether they be grown in the parterre, in the mixed border, in nursery beds for cutting from, or in pots.—D. THOMSON, *Drumlanrig Gardens.*

TACSONIA VAN-VOLXEMI CULTURE.

MY experience of this magnificent climbing plant commenced a very short time after its introduction to this country, which took place only a few years ago. Being about that time in want of a good selection of climbers for the conservatory, I purchased it solely from the figure and description given in the "Florist and Pomologist," and ever since it has been an object of much interest and pleasure to all concerned. Although this class of plants contains some subjects of unquestionable beauty, for instance, the gorgeous Tacsonia ignea and mollissima, yet I am of opinion that T. Van-Volxemi is unsurpassed—I may say unequalled—by any of them. It possesses extraordinary vigour, is very free blooming, and thrives most admirably in a greenhouse temperature. The flowers are from 3 to 4 inches in diameter, their colour scarlet, and the stamens and pistil stand out conspicuously, and are very ornamental. The flowers are suspended from a green string-like stem, from 1 foot to 18 inches in length, and nearly every flower produces a fruit which grows to the length of from 4 to 6 inches, measuring 1½ inch in diameter at the middle, but tapering equally to both ends.

From the foregoing description, which is not at all overdrawn, Tacsonia Van-Volxemi will be recognised as a most desirable plant for anyone who has a suitable house where it may be grown and trained so as to display its decorative qualities to the best advantage. From the plant's peculiar habit of flowering, it should be grown where the flowers can hang downwards overhead, and be quite clear of the foliage. Walls are objectionable, but porches and the cross bars and roofs of houses are more suitable. Of these positions the latter is preferable, because if the shoots, which will bear training within 4 inches of the glass, are about 6 inches apart, every flower will be so placed that its beauty can be seen to great advantage. The plant growing here is situated at the principal entrance to the conservatory, which is a kind of projection from the main roof. It covers the whole of this small roof, and forms a most agreeable shade to plants beneath it; its roots are in a bed of soil 10 feet long, 4 feet wide, and 4 in depth, under the flagstones at the entrance. This bed has plenty of drainage, and is quite independent of the larger beds in the conservatory. The soil is made up of one-half rather heavy turfy loam, and one-half leaf soil, mortar rubbish, and sand in equal portions. The plant is supplied with plenty of moisture when growing, and its pruning, up to the present time, has been confined to thinning and shortening the shoots which have gone beyond bounds. I am ripening the wood just now in order to give the plant a thorough pruning before starting it into growth for flowering during winter, which it did last winter most profusely. The plant appears to be less liable to the attacks of insects and other pests than most climbers, for when others have had them this plant has been quite free, owing, as I presume, to the hard texture of the foliage.—THOMAS RECORD, *Hawkhurst.*

POTATO FAILURES.

I FOR some time hoped that the stubbornness of the early Potatoes in breaking through the ground was peculiar to this district. I find it is not so. Mr. Record in page 368, and "H. H." in page 388, of the last volume, both state their failures and experiences. Information from other sources also brings me the assurance that the failure is by no means confined to any particular locality, but, on the contrary, the complaint is general.

It is very difficult to assign a cause for the misfortune. If, as some think, the failure is owing to the inclement weather which prevailed at and immediately after the time when the sets were planted, it is a cause beyond our power to avert in the future. According to this theory a similar unpropitious spring will bring a similar unfortunate result. Whatever the real cause may be, I am clear that in my case this theory completely breaks down; and I am very sanguine, should the weather early in spring be the same next year as we have recently passed through, that my early Potatoes will break through the ground with the usual regularity. This bold assertion must have a bold backing.

Now for the evidence on the case—stubborn Potatoes *versus* stubborn facts. On the 10th of March I planted a portion of a very warm well-drained south border with Early Ashleaf; on the same day I planted some of the same kind of Potato in an open space—as cold a spot, perhaps, as any in the kitchen garden. Now in the open, and by far the coldest and wettest place, every set grew well—not one failed; while on the warm south border nearly one-half of them did not come up. Some Potatoes from the same batch of seed and planted in a frame, served me the same. Here my experience is different from that of Mr. Record; but perhaps we may find half a reason why his came up as well as usual in frames, and mine did not. Mr. Record's were planted in pits early in December, and all grew; mine were planted in frames in the middle of February—a difference of upwards of two months. This period may only seem of small importance, but it may have had an effect. I have just two more arguments against climatic influences, at least this year, being the cause of the failures. 1st, The finest piece of Ashleafs I have seen this year is in one of the coldest and wettest gardens in this parish; and, 2nd, I planted a few of the same kind in an open place in November merely to see what would be the result, and every set has done its duty well—not one missed, notwithstanding the cold and wet, and they had no protection. Thus, from my own experience and observation, I have arrived at the conclusion that the cause of the failure is the Potatoes themselves being in fault. And why?

I will begin by saying that I believe the theory of the Rev. M. J. Berkeley is sound and is borne out by my practice,

although it is more than a hundred to one that I should ever have thought it out myself. The general crop of early Potatoes was out of the ground two months longer last year than it will be this. If this were a season of rest I do not know that it would so much matter: but it was not so. When a Potato is thoroughly ripened its next mission is to grow again. It will not fail to do this, given a temperature sufficient to rouse it from its slumbers. The extraordinary heat of last summer caused the sap to flow early and continuously, so much so that Mr. Record says the sprouted eyes of his tubers required "rubbing off every week." What a terribly exhausting process! Fancy rubbing off the sprouts every week for four or five months! The Potatoes planted in December had a clear two months' grace over those which had to undergo this exhausting ordeal until they were planted in February. Here, in my opinion, is the point. It is not the long but the short season of rest, and the long season of excitability and purposeless exhaustion, which have crippled their resources. When put in the ground it was their grave, from which they had no strength to rise again.

All this, however, does not so clearly answer the case of "H. H.," who cannot think his Potatoes were exhausted, as he did not rub off any sprouts. Well, this is exactly my case, and, except on the theory of Mr. Berkeley, I cannot account for it. I know they were out of the ground too long, and were over-ripened. I also know in a similar season how I should manage the seed so that it would grow as usual. That the seed Potatoes were too long out of the ground is proved by the fact narrated by Mr. Record, that the Potatoes dug up on the 14th of October and planted in February grew well, while a very large per-centage of those taken up three months previously, failed to appear above ground; and, further, some which I kept back until the end of April for land which was not at liberty before, have nearly all failed to appear. Again, a neighbour, an amateur and very successful Potato-grower, kept his out of the ground, waiting for fine weather, although they never had a sprout rubbed off, and at least 80 per cent. have never made their appearance.

My seed Potatoes were taken up in June, and spread thinly in an airy chamber. They soon commenced to grow, but as they were very thinly spread, and had plenty of light, the eyes did not elongate much. At the commencement of winter I placed them on their ends (this makes them push fewer eyes and much stronger), under the stage of a cool house; they still had plenty of light. Here they produced such sprouts as I never before saw—not more than an inch long, and some fully as thick as a man's finger, and as firmly attached as if they had been glued. I planted them in full confidence that "upwards and onwards" was their certain and unimpeded course towards a fine yield. Now, in planting, some of the very finest were put together in the frame, and marked to note differences of produce. It is these exceptionally fine ones which have not come up. In planting the south border, what I considered the cream of the lot were picked out and put in a few rows by themselves; but the cream became sour—they never came up; while those which had not pushed so strongly, and which were planted in the same border, as well as in the open place before noticed, came up very well. Now, I think, the cause here is clearly over-ripening. On examining those which refused to grow, I found the large stiff sprouts had formed in themselves a Potato of fair size, accompanied by three or four more useless productions.

I think, however, I have stronger evidence that the failures are primarily the result of over-ripening; for some Potatoes which had been kept in a very cool place from the time of taking up—in June, to the season of planting—in March, have come up very well; nothing could have come up better or more freely. I have given considerable attention to this subject; I have examined many plots, and, as far as possible, made myself acquainted with the seed and its manner of keeping, and I find, without exception, that the best pieces are the result of seed which had been kept in the coolest places, such as cellars and the like. I have thus strong grounds for my belief, that if a summer similar to the last occur, providing the seed be kept in a very cool place, it will come up well in the following spring, even if it be as wet and cold as that we have just passed through. I have no experience with the early round Potatoes spoken of by "H. H.;" possibly, as he suggests, they may be more hardy than the Kidneys.

Mr. Record asks if any "great" grower will tell him if the topless progeny are any use. If he will pardon the presumption of a "very little" grower, I will tell him they will, where large enough, make good seed. I once helped to plant a piece of Ashleafs which had been left out of the ground until July; they produced no tops, but some good tubers, which were planted, and turned out quite satisfactorily.—J. W., *Lincoln.*

PYRETHRUM CULTURE.

Double Feverfew being one of the plants mentioned by Abercrombie, may be considered to be an old favourite; and in some gardens it is quite a weed, especially in old ones, where the soil is light and dry. The Pyrethrums of that day, however, consisted of the double white, and a few starry-flowered varieties; but great improvements have been made since then, mainly by Mr. Salter, of Hammersmith. He has converted a nearly flat into a globular form, given us broad in place of narrow florets; in fact, brought them to the florists' standard of excellence—the Ranunculus form. The flowers are larger, of good form and substance, and the colours increased. Every year Mr. Salter sends out many new sorts which are great advances on older varieties, and I hope that he will some day give us a good profuse-blooming yellow, of dwarf habit, that we may be less dependant on the Calceolaria for yellow in our bedding arrangements. A yellow Pyrethrum would be valuable, for in light soils the Calceolaria is of little value in dry summers, but there the Pyrethrum flourishes.

Pyrethrums are not much employed at the present time in flower gardens. They grow too tall, and the flowers produced are not of sufficiently long continuance. In wet seasons, too, they grow too much and flower too little, but the latter drawbacks might be obviated by planting them in lighter and poorer soil, and I think we shall soon see them entering into the bedding arrangements of every garden. The old double white has been very serviceable as a white bedding plant, its flowers being very effective in flower beds or ribbon borders along with Scarlet Pelargoniums, and why should we not use Pyrethrums now that we have them with flowers of better form, when the plants are of better habit, and when they offer a greater variety of colour? Plants with rose-coloured flowers are scarce; in Pyrethrums we have them; and unlike Zonal Pelargoniums they do not run to seed in dry summers, nor are they so miserable-looking after a shower.

Apart from their claims as bedding plants, Pyrethrums are most useful for the summer and autumn decoration of borders, and for growing in pots out of doors. Finer objects than they are in 9-inch pots cannot well be imagined, the flowers equaling those of a Pompon Chrysanthemum in size, and the plants flowering most profusely, and being of stiff, compact habit, with a form that may be called half-pyramidal. They are in perfection from June to October, and plants might be flowered at any time by keeping the flowers pinched off until within a month of the time at which they are required to bloom, not pinching later than the beginning of September for a late bloom under glass. A few of the older kinds sufficient for a beginning are:—

Alfred Salter, reddish rose. Form fine, like a Ranunculus.
Ariadne, rosy lilac. Large.
Boule de Neige, white. Very double.
Comte de Morny, dark reddish rose.
Desdemona, blush. Large.
Dr. Livingstone, flesh white. Large.
Fascination, shaded pink. Fine.
Floribunda plena, rosy pink.
Hendersoni, dark red. Large flowers.
Hermann Stenger, bright rose.
Iveryana, rose.
Madame Furtado, white.
Madlle. Mennier, blush.
Mr. Calot, dark red. Fine.
Noblissima, rose centre. Large and fine.
Princess Metternich, white. Large and fine.
Rev. J. Dix, bright pink.
Roseum plenum, light rose.
Salter, bright rose. Large.
Vilmorin, rosy pink with yellow.

Pyrethrum Golden Feather, with yellow foliage, and so effective as a bedding plant, must not be omitted. It is dwarf, not exceeding 1 foot in height, but it has one great defect, that of producing a number of very starry white flowers, which ought to be pinched off as they appear. It is then very effective, especially in light soils, where if permitted to flower and seed it reproduces itself freely, and very truly. For bedding, it is, perhaps, best raised from seeds sown in July, in light sandy loam, under a frame or hand-glass, until germination takes place, after which gradually harden off the young plants, and prick them out under a wall, or in a sheltered sunny position, in light soil enriched with leaf mould. They will be fit for planting-out in March or April. It is also easily increased from cuttings slipped off close to the stem, the heel pared smooth, and inserted in sandy soil in a shady place, covering with a hand-glass. When they have rooted, plant them out in a

sheltered position for the winter. The cuttings may be made any time in summer, but July or August is the best time, as then they become well rooted, and may be planted-out before winter. When summer propagation has been neglected, the side shoots may be slipped off in March or April, the heel pared smooth, the lowest leaves removed, the cuttings inserted in sandy soil singly in small pots, and placed in a hotbed. Thus good plants may be obtained by May.

Pyrethrums are increased by seed, and by division or slips. By seed new varieties are obtained, and occasionally a few good double flowers, but most of the seedlings are worthless, even for shrubbery borders. Perhaps I may have purchased seed of a poor strain, but I shall in future grow named sorts only, and save my own seed. In sowing, proceed as follows:—Fill a pan to within half an inch of the rim with two-thirds sandy loam, and one-third leaf mould, and then to the rim with fine soil; make the surface smooth, scatter the seeds, and just cover them with fine soil. Place the pan in a frame where there is a gentle heat, and in a few days the plants will appear; keep them near the glass, and harden them off by giving plenty of air. After April it is sufficient to place the seed-pan under a cold frame or hand-glass, or the seeds may be sown out of doors, but I prefer sowing in a pan, and placing it under a frame, so as to have the seedlings up soon.

When the plants are large enough to handle—that is, when they are from 1½ inch to 2 inches high, prick them out in a bed in lines 6 inches apart, and 3 inches plant from plant in the row. The soil should be light, enriched with leaf mould, well dug, and pulverised. A sunny situation ought to be chosen. After planting shade, and keep the plants duly supplied with water until established. They will grow rapidly, and every alternate plant in the lines should be transplanted into another bed when they touch each other, well watering and shading until they become established. They will have plenty of room for the first year. In autumn they may have a mulching, about an inch thick, of leaf soil. When they begin to grow in spring, every alternate plant and row should be taken out and planted in a bed or border, and the plants will then be 1 foot apart. The old bed should be neatly pointed over. If the tops remain fresh nothing need be done, but if they wither cut them off to the live parts. Before autumn they will flower, and pull up every one with a bloom not a half sphere, or as nearly as possible of a Ranunculus form; but if it is of a new colour try to obtain well-formed flowers of the same tint.

If there are varieties which it is desirable to increase, that object may be effected by the division of the shoots which spring from the roots, and which will have some fibres attached to them. These, if put in a shady place, or artificially shaded and kept moist, will soon strike root; but propagation is more rapid if they are placed in a cold frame, or in gentle heat. They strike as freely as Chrysanthemum suckers. This mode of propagation is best practised in spring when the shoots are 3 or 4 inches long, though it may be carried on at all times when there are shoots—say from April to October out of doors, but at other times the protection of a frame is necessary for good rooting, and for speedy establishment a gentle hotbed of 65° or 70°.

Cuttings should be made from the vigorous-growing shoots only, which exhibit no symptoms of flowering, choosing such as spring directly from the stem, and the nearer the roots the better. When 3 or 4 inches long they are of the proper length. Slip them from the stem by pressure downwards. The heel should be pared smooth, and the leaves removed from one-half to two-thirds the length of the cutting, commencing from the heel. They may be placed in a shady position out of doors, in soil consisting of one-half light sandy soil, one-fourth leaf mould, and one-fourth sand, covering the surface to the depth of about half an inch with the latter material. Insert the cuttings up to the leaves, and not too closely together; if they clear each other it is enough. Then giving a gentle watering, cover with a hand-glass or frame, keep close and shaded from bright sun until they begin to grow, after which admit a little air by tilting the light on one side, increasing the amount daily, and when well rooted remove the glass altogether. The cuttings may be potted singly in 3-inch pots, and placed in a cold frame, or in a gentle hotbed, affording a mild bottom heat of 65° or 70° for about a fortnight or three weeks. The time to put in cuttings is from spring to October.

Early-struck cuttings may flower in autumn if shifted as the pots become full of roots, and encouraged with a proper supply of water, adding to the compost one-fourth of old cow dung; or the compost for growing plants in summer after striking may be loam from turf, sandy rather than heavy, one-half, leaf mould one-fourth, old cow dung one-fourth, with the addition of one-eighth of sandstone, in pieces from the size of a pea to that of a hazel nut, and a like proportion of charcoal of the same size, the small of neither being sifted out. The loam should be torn to pieces with the hand, but not sifted, nor must any of the compost, though it should be well mixed. If the points of the shoots be taken out when the plants are 4 inches high, they will branch, and any irregular-growing shoots may be stopped up to August, by which time we shall have fine plants in 6-inch pots. They may be bloomed in these pots, or shifted into 8-inch pots if they are disposed to grow much more and the pots are full of roots.

Thus, by autumn, good plants may be had from cuttings put in early in spring, whilst those inserted in August will be well-established plants either in pots or in a warm and dry situation out of doors. Fine sorts are well worth a cold frame in winter, and the plants being kept in 3-inch pots a large number can be placed in a one or two-light frame. They cannot have too much air, nor be kept too dry, the pots being plunged to the rims in coal ashes, care being taken not to allow the plants to suffer from dryness, nor must they be deluged with heavy rains. In very wet weather the lights should be kept on and tilted at back, but in fine, mild weather drawn off. In frosty weather the lights should be kept over them, and if necessary close, and in very severe frost a covering of mats should be placed over the lights. The plants will be fit for planting out in April for summer and autumn display in the flower garden. Plant in light soil deeply dug, and enriched with leaf mould or any well-reduced manure. For beds or borders the plants should be 18 inches apart every way, or for a close mass or a bed to be quickly covered, 1 foot; whilst for each plant to appear as a specimen, from 2 feet to 2 feet 6 inches will not be too great a distance to plant.

In dry weather the plants should be well supplied with water, especially when they are coming into flower, though they will bear more drought than almost any plant used in the flower garden. If they remain in the ground during winter a mulching of leaf mould should be given about the plants, which may be neatly pointed-in in spring, and the dead parts removed when the plants begin to grow. It is not advisable to remove them early in winter, as they act as a protection. The flower-stems, however, should be removed as the plants go out of bloom. The plants are at their best in the year after propagation; in the second year of flowering they are good, and less disposed to growth; and in the third they are poor; therefore keep up the stock by annual propagation.

If the cuttings are not struck in pots, nor potted after being struck, they should be transplanted by October in a bed, after they are well rooted, placing them 3 or 4 inches apart, and selecting a warm situation and dry sandy soil. In spring they may be removed to where they are to remain for flowering, taking them up with good balls, and watering after planting if the weather be dry.

If the plants are to be grown in pots they ought to be wintered in a cold frame, and in spring should be shifted from the small pots, in which they have been wintered, into 4½-inch pots. This should be done in March, and if no plants have been wintered in pots, the best of those in the open ground may be taken up and potted, if they are cuttings or suckers of last year. It is not necessary to use pots larger than 4½ inches in diameter. The plants may be placed in a cold frame, and kept rather close and shaded until established, then harden them well off, and after April place them in an open situation sheltered from wind, but not shaded. The pots should be set on coal ashes affording each plant enough of space to stand clear of those near it, and leave a little room for growth. Plenty of space should be afforded them in all stages of their growth, except, perhaps, in winter, when room may be a consideration. When the pots become full of roots, and before these are very much matted round the sides, shift into 7-inch pots, and again into 8-inch pots, and for the most vigorous plants even into 9-inch pots, the final shift being given by the time the flower-buds show; or if stopping be practised, the final shift will be required at the end of June, if not stopped earlier in that month; whilst for late blooming the last shift need not be given until July. No potting should be attempted until the roots are matted round the sides of the pots, still it must be done before they become very much so. Good drainage should be given, and especially at the last repotting.

The plants should be well supplied with water, not giving any, however, until the soil becomes dry, and then enough to

show itself at the drainage; on the other hand, the foliage must not be allowed to flag from want of water. After the plants begin to button, weak liquid manure may be given at every alternate watering, up to the time of the blooms expanding.

As regards training, the shoots when long enough should be tied or pegged down, bringing them towards the rim of the pot regularly, so as to feather all round. If they grow evenly no stopping will be needed, but if any shoot is much stronger and longer than the others, stop it; this, by checking growth, will invigorate the weaker. A bush may be formed by pinching all the shoots in a similar manner, the strongest always first, and the weakest last or not at all; and a pyramidal form may be given by pinching the side shoots and encouraging the centre growths. Stopping may be practised almost to any extent, but not after the middle of June, except for very late blooming. Always confine the stopping to the vigorous growing parts, as the flowering parts must not to be stopped; but if they appear before bloom is required, pinch off or cut it away, for until the plant is as large as required, no flowering must be allowed. By stopping some plants and not stopping others, selecting for the latter the plants of the best habit, a succession of flowers will be secured. The plants in pots will be found decorative for the greenhouse, conservatory, or mansion. I do not consider the single varieties worth growing. I like the flowers to resemble half a globe, and to be high in the centre. —G. Abbey.

BEECH AND OTHER TREES INJURED BY COLD.

As many of the Beech trees in the park here appear to be injured on their east side, I have been led to think it has resulted from the cold weather in May and June; but not having heard whether others are similarly served elsewhere, I hardly knew whether to attribute it to that cause or some local one. Elms adjoining them, and equally exposed, have not suffered so much, and in general the Beech may be regarded as one of the hardiest trees. However, as already remarked, the eastern side of most of the Beeches, including many that are protected by other trees, have this season a half-scorched appearance similar to what I have witnessed when a violent cold east wind has injured trees of all kinds in May. That May and June have been very cold months cannot be questioned, and the effects are visible in the small growth, and, in many cases, death of plants not proof against the influence of weather such as is common in March and April; but I hardly expected the Beech would suffer, and yet it is so.

I need scarcely add, that trees which are more tender have suffered also, as the Walnut and Oriental Plane. The latter has comparatively few full-sized leaves upon it, and the Walnut in exposed places has a melancholy appearance. Even in sheltered positions the crop of fruit, which promised to be most abundant in the beginning of May, has all disappeared, having dropped off.

Perhaps some of your readers will report how they have fared, more especially what effect the cold has had on the hardier kinds of vegetation. With us the growth of grass from the 1st of May up to the middle of June, or later, was very rapid, and some other crops prospered also; but, generally, it has been the reverse with everything. As to bedding plants, I feel unwilling to speak further than to say that when we consider the almost total absence of sunshine, the low temperature, cold withering east winds, and other circumstances, the wonder is that they have done so well as they have. Dwarf Kidney Beans and Scarlet Runners are very late, and other crops of a tender kind are also backward. If it should appear that one of the very hardiest of our native trees, the Beech, has suffered by the uncongenial season, the wonder is not that Scarlet Runners and the like have done badly, but that they should have been able to live. I shall be glad to know if the injury to the Beech is general.—J. Robson.

TACSONIA BUCHANANI.

I send a leaf and flower of the new stove climber, Tacsonia Buchanani. I had it as soon as it was introduced, and have kept it potted on and plunged in the bark bed of my stove, so that now it is a plant of considerable size. It was recommended by the introducer as flowering freely on small plants, but this must be incorrect, as I believe it has not yet flowered, even with M. Verschaffelt, who sent it out; at least, it had not done so when I was in his nursery last September, and he would assuredly have noted the fact in his periodical, if it had bloomed since. My first flower opened in the same week that the Editors of the *Gardeners' Chronicle* acknowledged the receipt of a specimen bloom from Mr. Morse, and the flower I send is the first really perfect one I have had since. My plant is growing in an ordinary stove, trained along the rafters, with a Stephanotis. Now that it is strong it is free-blooming enough, but the buds take a long while to open, and the flowers last but a day, which will not add to its merits. The colour I shall leave you to describe [It is a brilliant scarlet], and, in conclusion, I can confidently recommend the plant both for its bold foliage and superbly brilliant blossoms, as a most valuable addition to our stove climbers. It has been stated to be the same as Passiflora vitifolia. I shall be glad to know if others entertain that opinion.—Gulielmus.

AZALEA CULTURE.

(*Read at the United Horticultural Society's Meeting, June 14th.*)

For the compost it is absolutely necessary to have good peat, full of strong fibre. I am careful not to select peat of too great a thickness, my opinion being that a thickness of from 1 to 3 inches is the best. From soils deeper than that I cut off the bottom, and throw it away. The peat is pulled carefully into pieces suitable for the size of the plants to be shifted; the greater the shift, the larger the lumps of peat. The next essential material is sharp sand, and it is almost impossible to obtain sand sharp enough. I also select some soft bricks, and break them up to the size of nuts. As a rule I use about one-third sand and brick rubbish to two-thirds of peat.

The compost being ready, I examine the size of the pot my plants are in, and select pots a size larger—that is, 1½ inch; for strong-growing sorts, a 2 or 2½-inch shift is not too much. The pots must be clean and dry, and there should be from 1 to 2 inches of crocks at the bottom of the pot.

The best time for potting the Azalea is about ten days after the plant has flowered and the pods are picked off—a work absolutely necessary to insure free growth, and without which diminutive flowers are produced. In potting all fine-rooted plants, I find it very necessary to have the ball of the plant thoroughly moist, and on turning it out, if I find it too dry, I soak it in a pail or tub till the water has thoroughly penetrated the mass of soil.

After the pot has been crocked and the plant is ready, I cover the crocks with a little rough peat, place over that a few small crocks and sand, then the ball is dropped 1 inch below the rim of the pot, and a little of the mixture is worked carefully round the ball, rammed firmly, and so on till the soil is filled level with the old ball. The plant is then taken back to the quarters assigned to it—a close damp house—until the growth is made, and the buds begin to harden. Moisture is then gradually withheld.

When the buds attain the size of a pea, the plants are set out of doors for a fortnight or so. Early-forced plants are placed out of doors as soon as the growth is made, and left until the end of September, when all others are housed. Any plants which have not pushed their buds sufficiently I give a little more heat, which will greatly assist them. For flowering in December the plants should be started by the end of September, and a succession may be had in flower up to July.

Another method which I adopt when plants have become potbound, and it is, nevertheless, not desirable to give them larger pots, is to allow them to become dry, turn them out of their pots, and with a sharp chopper cut away 1½ or 2 inches of the ball as the case requires. I prick the ball round to loosen it, dip it in water until it is thoroughly soaked, give it half an hour to drain, and then pot it in the usual way, keeping it shaded for a few days. Plants may be grown in the same-sized pots for years. Great care is required in watering; in fact, every plant grower knows it is of no use writing on watering, as that must be learned by strict attention to the requirements of different plants, but when a plant requires water I give it a good soaking. When growing they require frequent syringing.—G. Baker.

PEWITS AS VERMIN-KILLERS.

Your correspondent "H. E. W." wishes to know the management of the plovers in my garden. The management was last winter simply *nil*. As I stated, owing to the mild winter they did not require feeding, but in a hard winter they want more

food than they can pick up, and must have raw meat minced for them; they speedily become so tame as to eat out of your hand. Mix your meat with worms at first, and they will soon take to it. They also require a shelter of some sort—a door on four supports is as good as anything. The birds were purchased from an advertisement in the columns of this Journal.—I. N. P.

SOME HARDY HERBACEOUS PLANTS.

TRIENTALIS EUROPÆA.—This pretty little plant is a native of Britain and other countries of Europe, also of North America and Asia, always affecting the colder latitudes, or if appearing in the warmer countries, it rises into the mountains. Old Fir or other open moist woods are its favourite haunts. It is a solitary species, and the sole representative in the flora of Britain of the seventh class in the Linnæan system of botany; but it is not a good seventh, the parts of the flowers being often found in fives. The whole plant rarely exceeds 6 inches high, with erect wiry stems bearing a few leaves whorl-fashion at the top, and from the centre of these spring the chaste and graceful star-like white or pale pink flowers with a small yellow eye. On rockwork it must be placed in such a position that shade and moisture will be secured to it, and the soil it most delights in is open gritty leaf mould, or very sandy peat and light loams It does not succeed cultivated in the ordinary exposed mixed border or bed, shade being very essential to its well-being; but it is a most useful plant to introduce into moderately shady moist woods or banks, with a northern aspect, where the natural herbage is not too rank and overpowering. In all cases where the introduction of it is contemplated, the soil above named should be liberally allowed; it well repays a little trouble in the first preparation for its reception. The flowers appear in cultivation usually in May or June, but in nature often a month later. Division is the best method of propagation.

LYSIMACHIA.—This is a useful, showy, and free-flowering group of plants. For a small family there is a considerable diversity of habit in the members comprised in it, but there is little variety of colour, yellow in various shades being the predominating hue.

L. nummularia is one o the prettiest and most interesting. It is a dwarfy prostrate plant, throwing many branches out in all directions from the centre, which in moist situations root at the joints and so spread many feet. The flowers are yellow, and appear in June, and last till September and October if occasionally pinched-in to induce fresh growth. It is useful for a variety of purposes—for clothing rockwork, moist banks, front lines in mixed beds and borders, and for festooning the margins of rustic vases where such ornaments may with propriety of taste be introduced into flower gardens. Native of Britain and Europe generally. A variety with yellow leaves or yellow-variegated leaves, recently introduced, is of considerable value, and will, when more generally known, become a favourite in the flower garden of any style.

L. vulgaris, like the last-named species, is a native of Britain, and Europe generally, appearing also in many parts of Asia and in Australia. It rises erect to the height of 2 or 3 feet, with branching stems terminating in loose leafy panicles of yellow flowers, which appear in July, August, and September. It is not at all a choice-looking plant, but it is valuable for introducing into moist open woods, and for planting on the banks of ponds and streams where the natural vegetation stands in need of improvement, and for lighting up masses of shrubs. It succeeds in any common soil, but delights most in partially shady moist places.

L. punctata, by some considered as a rather well-marked variety of L. vulgaris, is for horticultural purposes not very distinct from that species. It is found in some parts of England and Scotland along with L. vulgaris, and in south-eastern Europe. The spotting implied in the specific name is not of much value.

L. thyrsiflora, native of Britain and other parts of Europe, of northern Asia and America. It is similar in aspect to the preceding species, but dwarfer, and with simple or unbranched erect stems. The flowers are yellow in rather dense racemes, and appear in June, July, and August. Useful for the same purposes as the preceding.

L. angustifolia, from North America, is a very graceful species, growing to the height of 1 foot or 18 inches, with terminal leafy panicles of nodding pale yellow flowers. It is useful for the same purposes as the two preceding species, and is well worth a place in the mixed border. Like the others it delights in moisture, and is not fastidious as to the quality of the soil. The flowers appear in June and July.

L. ephemerum, from several parts of the south of Europe, is very distinct from either of the foregoing species. It grows about 2 feet high, with rather graceful habit, and the stems terminate in handsome racemes of white flowers. The corolla is rotate, with deeply-divided spreading lobes, obovate in form. It flowers in July and August, and is most suitable for cultivating in the mixed border or the margins of shrubberies in good moist soil.—(*The Gardener.*)

BIRMINGHAM ROSE SHOW.

THE eighth annual Exhibition of Roses, horticultural implements, garden ornaments, &c., was held on the 9th and 10th inst., in the Town Hall. This annual Exhibition has now become one of the permanent institutions of Birmingham, and its increasing importance and usefulness are fully evidenced by the fact that nearly all the principal Rose-growers of England—some of them coming from such remote districts as Essex, Hertfordshire, Devonshire, and Somersetshire—have deemed it worth their while to compete for the honours which are awarded to the most successful growers of this garden favourite. The committee of management, and all who take an interest in this delightful exhibition, are to be congratulated upon the unprecedented success which has attended the efforts made to promote the Show this year, and in every respect it is much the best that has ever been held. Altogether, there were no fewer than two hundred and thirty separate entries, by fifty-four exhibitors; but reckoning by former experience, a reduction of about 30 per cent. on this number was anticipated. Contrary to the usual custom, however, all the exhibitors, with the exception of four, put in an appearance, and the result was the largest and finest exhibition of Roses that has taken place in the Town Hall.

Considerable attention was paid to the decoration of the hall, so as to enhance the attractions of the Roses, and considering the short time that was available for this purpose, the manner in which this was executed, under the direction of Mr. J. Cole, was worthy of all praise. For much of the pleasing effect which was produced by the decorative ability of this gentleman, visitors to the Show were indebted to Messrs. Felton & Sons, of the Birmingham Nurseries, Edgbaston, who furnished a handsome collection of stove and greenhouse plants. These choice plants were very effectively displayed in the orchestra, and in the great gallery, and Mr. Cole himself sent some very fine plants, which were admirably arranged in lines down the centre of the tables in the body of the hall. Messrs. T. & E. Jepheott, of Balsall Heath, supplied several collections of Ferns, flowers in vases, and bouquets, which were arranged with much taste on a table immediately underneath the platform; and Mr. A. Bickley, of Moseley, sent a fine collection of British Ferns in pots—all of which were judiciously utilised in contributing to the general effect of the Show.

As regards the show of Roses, the collection was extensive, and the whole of an unexceptionably meritorious character. In the section for seventy-two varieties, single trusses, Messrs. Paul & Son, of Cheshunt took the lead. In this collection the specimens of the Duke of Edinburgh and Miss Ingram, both new flowers, and Alfred Colomb, were remarkable for their great beauty. For depth of colour and brightness of petal, the collection was much admired. Mr. John Cranston, of Hereford, who took the second prize, had also an excellent collection. The same gentlemen were equally successful in the forty-eight varieties, three trusses, taking first and second prizes respectively with collections, all the blooms in which were very fine. In the stand of Mr. Cranston the three trusses of Madame Charles Wood were very large, but rather rough. In the class for twenty-four varieties, three trusses, Messrs. Paul & Son again took the lead with a stand of which it is not too much to say that it was one of the best in the entire exhibition, and that it did not contain a Rose which would not have been a credit to any exhibition. Mr. B. R. Cant, of St. John's Nursery, Colchester, had also a very fine collection, which was awarded the second prize. The same gentleman exhibited, but not for competition, a stand containing about thirty blooms of Maréchal Niel, all in most perfect condition as regards form and colour. This stand, indeed, was quite a feature in the exhibition, and, viewed from the galleries, the rich, deep, golden colour of these beautiful Tea Roses was very striking.

The amateurs also made a splendid show in their various classes. Amongst the exhibitors of peculiar and highly meritorious specimens were the Rev. P. M. Smythe, of Solihull, whose Charles Lefebvre was a remarkably handsome flower; and Mr. W. Brown, gardener to Mrs. Alston, Elmdon Hall, whose François Lacharme, Madame Willermoz, and François Louvat were very beautiful specimens.

In the open class there were many specimens which for intensity of colour and smoothness of petal could scarcely be surpassed.

There was also a very fine collection of bouquets for the hand; that by Mr. John Cranston gained the first prize. In the class restricted to ladies, the best design for dinner-table decorations was that by Miss Cole, of Birchfield, who sent three stands, one as a centre piece, and the other as side pieces. The design by Miss M. Bailey, of Longton, which was also very prettily executed, received the second prize. In both of these designs much decorative skill was displayed, and great pains had evidently been taken with them.

Mr. Perry showed a stand of seedling Verbenas, to three of which—Rising Star, the Rev. J. Dix, and Butterfly—a first-class certificate was awarded. Mr. R. H. Vertegans, of the Chad Valley Nurseries, sent several fine collections of Roses not for competition; and Mr. F. Hodges, of the Imperial Nursery, Cheltenham, exhibited a stand of twenty-four specimens of the white Clove Carnation, The Bride.

A highly commendable endeavour was made to benefit one of the local charities, in connection with the Show, by setting apart a stall for the sale of bouquets, the proceeds of which should be given to the General Hospital.

Amongst the exhibitions of horticultural implements, Messrs. Mapplebeck exhibited a large number of iron ornamental vases, which were distributed in different parts of the hall. In addition, they sent a great variety of croquet and garden seats, garden tables, engines, syringes, &c. Messrs. R. W. Winfield and Co., of the Cambridge Street Works, exhibited a number of beautiful cast-iron garden seats, with imitation cushions, the utility of which many of the visitors practically proved. Mr. W. Spurrier, the electro and silver-plate manufacturer, had a number of specimens of his art, suitable for table ornament.

The general arrangements for the Show were very efficiently carried out under the superintendence of Mr. E. W. Badger, who was most indefatigable in his exertions to insure success. The Judges were, in the nurserymen classes, the Rev. S. R. Hole, Messrs. C. Turner, and S. Evans. For amateurs, Messrs. G. Paul, T. Walter, Gill, J. Keynes, B. R. Cant, and the Rev. R. O. Carter. In the open classes, the Rev. E. N. Pochin, and Messrs. S. Hibberd and C. J. Perry. The following is the prize list:—

Nurserymen.—Seventy-two varieties (single trusses).—1, Messrs. Paul and Son, Cheshunt. 2, Mr. J. Cranston, Hereford. 3, Mr. R. Cant, Colchester. 4, Mr. J. Keynes, Salisbury. Forty-eight varieties (three trusses).—1, Messrs. Paul & Son. 2, Mr. J. Cranston. 3, Mr. J. Keynes. 4, Messrs. H. Curtis & Co., Torquay. Twenty-four varieties (three trusses).—1, Messrs. Paul & Son. 2, Mr. Cant. 3, Mr. J. Keynes. 4, Mr. J. Cranston. *Open to residents in the counties of Warwick, Worcester, or Stafford only.*—Twenty-four varieties (single trusses).—1, Perkins & Sons. 2, Mr. J. Jennings, Shipston-on-Stour. 3, Mr. J. Jackson, Kidderminster. 4, Mr. T. Walter, Leamington. Twelve varieties (three trusses).—1, Perkins & Sons. 2, Mr. J. Jennings. 3, Mr. J. Jackson. 4, Mr. C. Kimberley, Stoke.

Amateurs.—*Open to the United Kingdom.*—Thirty-six varieties (single trusses).—1, Mr. T. Draycott, gardener to Mr. T. T. Paget, Humberstone Hall. 2, Rev. S. R. Hole, Newark. Equal 3, Mr. R. Draycott, gardener to Mr. E. Studd, Hallerton Hall, and Mr. R. B. Postans, Brentwood. Equal 4, Mr. S. Evans, gardener to Mr. C. N. Newdegate, M.P., Arbury, and Mr. T. Laxton, Stamford. Twenty-four varieties (single trusses).—1, Mr. R. Draycott. 2, Mr. J. W. Chard. 3, Mr. T. Lloyd, Warwick. 4, Rev. P. M. Smythe, Solihull. *he*, Rev. G. Arkwright, Penecombe Rectory, Bromyard. Eighteen varieties (three trusses).—1, Mr. C. J. Perry. 2, Mr. R. Draycott. 3, Rev. C. H. Bulmer. 4, Mr. T. Laxton, Stamford. Twelve varieties (single trusses).—1, Mr. R. B. Postans. 2, C. J. Perry, Castle Bromwich. 3, Rev. S. R. Hole. 4, Rev. G. Arkwright. Open to residents in the counties of Worcester, Warwick, or Stafford only.—Twenty-four varieties (single trusses).—1, Mr. C. J. Perry. 2, Rev. P. M. Smythe. 3, Mr. S. Evans, Arbury. 4, Mr. W. Brown, Elmdon. Twelve varieties (single trusses).—1, Mr. C. J. Perry. 2, Mr. S. Evans. 3, Mr. J. Parnell, Rugby. 4, Rev. P. M. Smythe. *Open to residents within four miles of Stephenson Place, Birmingham, only.*—Twelve varieties (single trusses).—1, Mr. C. Cooper, gardener to Miss Anderton, Moseley. 2, Mr. J. E. Mapplebeck, Moseley. 3, Mr. J. Pirie, Erdington. 4, Mr. T. A. Bickley, Smallbrook Street. Six varieties (single trusses). 1, Mr. C. Cooper, Moseley. 2, Mr. J. E. Mapplebeck. 3, Mr. T. A. Bickley. 4, Mr. H. E. Lowe, Edgbaston. *Limited to Amateurs who have never previously won a prize for Roses.*—Twelve varieties (single trusses).—1, Mr. C. Butler, Castle Bromwich. 2, Mr. J. Pirie, Erdington.

Open.—Collection of twenty-four new Roses, sent out by English nurserymen in the spring of 1867, 1868, or 1869 (single trusses).—1, Mr. J. Keynes. 2, Paul & Son. 3, Perkins & Son, Coventry. Best new Rose sent out by English nurserymen in the spring of 1867, 1868, or 1869 (six trusses).—1 and 2, Mr. J. Keynes; 1 for Madame Rothschild, 2 for Mons. Noman. 3, Mr. B. R. Cant, Colchester, for Miss Ingram. First-class certificate awarded to J. & C. Lee for Rose Edouard Morren. Twelve varieties (single trusses), Teas, Noisettes, Chinas.—1, Mr. B. R. Cant. 2, Mr. J. Keynes. 3, Paul & Son. Twelve varieties (single trusses), Summer Roses, including Provence Roses, Moss Roses, Gallica, Hybrid Bourbon, Alba, and Damask Roses.—1, Mr. W. Brown, Elmdon. 2, Mr. Laxton, Stamford. Best Design of Roses and Rose Foliage, arranged suitably for room decoration.—1, Mr. J. W. Chard. 2, Rev. G. Arkwright. 3, Miss Bulmer, Hereford. Best Bouquet for the hand, entirely of Roses and Rose buds, foliage not restricted to that of Roses.—1, Mr. J. Cranston, Hereford. 2, Mr. J. Jackson, Kiddermiuster. 3, Miss Mort, Stafford.

Open to Ladies only.—Best Design for Dinner-table Decoration, Roses to be the only flowers used, foliage not restricted to that of Roses, but left to the taste of the designer.—1, Miss Cole, Birchfield. 2, Mrs. M. Bailey, Stafford. 3, Miss Mort.—(*Aris's Birmingham Gazette.*)

VINES IN AN ORCHARD HOUSE.

I have an orchard house 60 feet by 16, planted with Black Hamburgh Vines in the borders inside, and trained on rods 16 inches from the glass. Two seasons ago the crop was plentiful and ripened splendidly in September; last year the mildew attacked all the Vines, and this year is showing again. Can you give me any advice? My gardener and I differ on the treatment as to air. He keeps the house shut up night and day. There are ventilators to about every 10 feet of roof, and perforated zinc 3 inches deep the whole length of the house along the top of the back wall (the house is a lean-to), all of which he will stop up if allowed. The lights in front are all made to open as well, and there are doors at each end. How much air ought I to give during the day? Ought the ventilators and the front lights to be open at the same time? I notice the berries are larger and more healthy-looking quite at the top, nearest the zinc ventilators. The heat of the house during the day is intense—more like a stove heat. Ought this to be so, the house being merely an orchard house on Mr. Rivers's plan, with no fire heat?—Kate.

[It is not always an easy matter to hold the balance between the employer and employed, and we have often been found fault with for leaning to the weaker side; but whether we be blamed or not, we shall make a few remarks on the above letter.

In the first place, if the description of the treatment is correct, we have no hesitation in saying that keeping the house so closely shut up night and day was one of the surest means to have plenty of mildew; and if the soil was at all damp, nothing could more tend to make the mildew spread. What we are surprised at is, that with such heat and no ventilation, there were not scorching and scalding as well. We presume that the safety-valve in this direction consisted in the 3 inches of perforated zinc at the top of the back wall, left open, we presume, in the warmest days. But for this, ventilators every 10 feet at the apex of the roof would not have been sufficient, and we do not know if there is sufficient ventilation, as we do not know the size of the ventilators. The great use of the perforated zinc, if left open, would be that the temperature of the house would rise gradually, that the hottest and moistest air would escape, and thus, though the house became very hot—"more like a stove heat"—the scorching would be prevented, though the close atmosphere would encourage mildew. What we would consider necessary now would be to leave the perforated zinc open in this hot weather night and day; to sprinkle all the mildewed parts with flowers of sulphur from a dredger or large pepper-box; and to gradually increase the quantity of air, having as much ventilation as possible in hot sunny days from one to two o'clock, and then gradually diminishing the amount until about 4 p.m. The chief object, even in hot weather, of shutting all up, except the strip of zinc at night, would be to enclose a certain amount of sun heat, so as to bring the Grapes on, and thus give them the full benefit of being protected by glass. Diminishing the ventilation in such an unheated house would be effected on much the same principle as lighting a fire for a regular vinery, it being a matter well understood that, even for keeping, Grapes ripened in September will hang better than those ripened in October. We know that in such summers as the last, provided there was plenty of ventilation during hot sunny days, the Grapes would have ripened well with a reduced quantity of air all night, such as would be supplied through the perforated zinc. The management in this case becomes a very easy matter, but we cannot always expect such summers; and for a house of Vines with no artificial heat, we should like the Vines to be growing and ripening at that season when most heat was to be obtained from the sun. For this purpose, in a cool house for Vines, we would give plenty of air in spring, so that the Vines should break slowly and late, and when fairly broken we should gradually lessen air, so that the Vines should have a fair heat when in bloom and setting. After that, if our object was safety and early ripening, we would either leave a little air on all night, or make sure to give a little early in the morning; and as the sun increased in power we would increase the ventilation in a lean-to house, giving the top ventilation first and the front last. On the same principle we would reduce the amount of air again gradually, so as to enclose sun heat.

If this could not be attended to, then we would prefer having a moderate amount of ventilation night and day, instead of keeping the house so close. On large sheets of glass the sun has great power, but with the temperature rising gradually with ventilation, sun heat seldom or never injures. Thus, in a cool glass house, with or without air at night, the temperature at night may range from 45° to 55° or more, and by day rise gradually with ventilation to as much as 85° or 90°, or even more, and no distress will be experienced by the plants; while the same heat in a close atmosphere might be ruinous. Hence, when little trouble and labour are to be given, say in the case of a gentleman who does the work himself, and is away from ten to four, we should from the middle of June, or earlier if the weather were fine, give a little air all night, and before we left in the morning give as much air as would keep the house safe, though the weather should be changeable. This art is easily learned in a few days, and people gain confidence when

they become convinced of the simple fact, that provided air is given early enough, and enough of it to prevent a sudden outburst of sun raising the temperature of the house immoderately, Vines, &c., will not be injured if the temperature fluctuate considerably—say, goes up and down from 60° to 90°, or even 95°, as the rising and falling will be gradual, and there will be no confined moist air within the house, which often does so much mischief when the house is shut up.

To suit a number of inquirers besides "KATE," we have thus alluded to what we deem the correct management of a cool house for Vines in two circumstances—when ventilation can be attended to during the day, and when the most of that work must be done—say, at 9 A.M. and 4 P.M.

So much, then, for the main issues, as to keeping such a Vine house shut up night and day, a practice admitting of no defence except on the supposition that the statement is slightly incorrect, and the probable fact that the gardener thoroughly believed he was doing the best under the circumstances, not in giving no air, but in taking the full advantage of the sun heat. Until the last eight days or so, the season, as a whole, has been dull and cold. We had plenty of nights in May and June in which in such a house the perforated zinc would have been better shut than open. We have a house with Vines and Peach trees together, but in such weather the house was often shut up by three o'clock, and though a little air was given at the apex early in the morning, there were days when that house had little more air than would have been supplied by the 3 inches of perforated zinc. Of course, if there was even a short period of bright sun the air was increased, but in cold bleak days not in proportion to the burst of sun heat, as we knew that could do no harm, with air on to prevent a confined atmosphere and a circulation of light vapour. In the last days of the week air was freely given at back and front, and the doors were opened, but the front air was cut off by three o'clock, and all except a little taken from the back by four o'clock, so that the sun should leave a kindly heat in the house. Most likely the gardener has erred from excess of zeal, to make the most of the sun heat for the benefit of his Vines, and through them for the advantage of his employer. If they unite together and strike out a happy medium as respects ventilation, all will be well, and the cheapest of all heat, sun heat, will be made the most of.

We shall conclude with this advice: In a house of the description referred to, moderate ventilation night and day will be safer in every way than little or no ventilation at any time. The amount of ventilation required greatly depends on the plane of glass. Orchard houses with large squares require almost double the amount of air that would do for a house built in the old-fashioned way, with heavy rafters, and the sash bars not more than 6 or 7 inches apart.]

GROWING ROSES NEAR THE CITY.

HYBRID Perpetual Roses will not flower with me from being near the City. Would I have a better chance with them grown in pots?—F. G.

[The following is Mr. Fish's answer:—

You are quite right, it is the smoke and soot which spoil your Perpetual Roses, clog up the pores of the bark and leaves, and prevent free respiration and perspiration. I cannot perceive what benefit will result from growing the Roses in pots—that is, if you keep the pots out of doors, plunged or otherwise; but you will succeed well with such Roses in pots, if you can place them under glass, syringe well, give plenty of air, and yet keep the smoke and soot out. I have tried several modes, as wool netting, fine gauze, wire, &c., over the ventilators; but, perhaps, there is nothing better than rather fine gauze, or rough muslin, which allows the air to pass through with tolerable freedom, and yet keeps out the smoke and soot, only the gauze must be washed and ironed out as it becomes dirty and clogged up, or soon no air would enter. There is also this great advantage in having your plants under glass, that you can give air freely at night in summer, shut up your house as the morning fires are lighted, and then when most air will be wanted, as at midday, the atmosphere will be clearer and sweeter.

One other mode I practised on a small scale with Roses in London, with the stronger Perpetual, Hybrid China, China, and even a few Moss Roses. The plants were on their own roots, and the method consisted in treating them more like Rose stools than Rose plants. Thus, the shoots made this season were little depended on for a succeeding year. If very strong they were partly pruned in the autumn, and some fern was placed over the stool, covering up a dressing of rotted dung. The partly cutting back concentrated the strength of the plants in the roots, and the lower almost imperceptible buds near the base of the shoots. Frequently the tops looked rusty and woe-begone in winter, and sooty and grimy enough too, but that mattered little, as when April approached we used to cut them all down to the ground, and as the atmosphere became clearer plenty of shoots, strong and with good foliage, came from the stool; and though the Roses were produced later, we used to have plenty of them, and a succession, by carefully thinning out the stronger and the weaker shoots. All the China section, including such kinds as Abbé Mioland, Cramoisie Supérieure, Mrs. Bosanquet, &c., did well, and yielded a profusion of flowers when so treated, but failed miserably when we merely pruned back bushes in the usual way. The Roses were treated on a hint obtained from the fact, that deciduous trees that expand their leaf buds late, do so much better than evergreens in smoky places. Even though the stems and branches of trees are encrusted with soot, the fresh green foliage coming out late in a clearer atmosphere, enables the trees to keep up a rather healthy vitality. Many of the Roses, if left to themselves, are almost half-evergreen, and among the Hybrid Perpetuals the shoots are often covered with small spines or bristles, which keep the soot about them like so many burrs. The China group have smoother bark and stems, and give less lodgment to the enemy; but even in that case, where the atmosphere is greatly smoke-laden, I would advise the cutting-down system. I used to have fine massive bushes of Fuchsias, by treating them in the same way—cutting down to the ground, covering the stools with dung and litter, and better with moss, and removing the covering about the end of April. I cannot, at present, think of any other modes I could recommend for your adoption.]

PHYLLOXERA VASTATRIX.

WE are very sorry to learn that this most formidable of all the enemies of the Grape Vine has made its appearance in England. We were the first to call attention to it in this country as being prevalent on the Continent; little did we then think that it was at our doors. We make the following extract from a letter addressed to us by a gentleman in Kent: "My Vines have all grown well except two, a Mrs. Pince's Muscat and Meredith's Alicante; these did not move more than 2 or 3 inches, and I determined to take them up and examine the roots. Now the roots were swarming with Phylloxera vastatrix; there was also the winged kind. Your description in the May number of the 'Gardener' is very accurate. With a glass of good power you can see it in all its stages, but you can see it with the naked eye. It looks like grains of yellow sulphur in the crevices of the roots; with a high power it resembles small yellow tortoises. It barks all the roots and destroys the Vine." The writer farther expresses a fear that this pest is known to be in some nurseries, but is kept a secret. If so, no time should be lost in discovering which these are, and in getting it "stamped out," to use a phrase only too familiar to us.

The following is the description referred to:—

In some localities of the south of France the Vines are suffering from the ravages of a destructive insect, which has lately been noticed for the first time. M. E. A. Carrière has just published in the "Revue Horticole" an extract from an article which M. J. E. Planchon contributed to the "Comptes Rendus de l'Institut" (1868, page 588). Here is the passage from the "Revue:"—

I will here give a brief *résumé* of all I learnt about the habits of the Phylloxera vastatrix from a series of observations made on the spot, in three short visits to the south of France; also all I noticed with reference to the specimens which I kept in glass bottles during forty consecutive days.

Its best-known form is that in which no trace of wings can be discovered. When the insect is about to lay its eggs (that is, in its adult female state), it forms a small ovoid mass, having its inferior surface flattened, its dorsal surface convex, being surrounded by a kind of fillet, which is very narrow when it touches the thoracic part of its body, which, formed by five rather indistinct rings, is hardly separated from its abdominal part of seven rings.

Six rows of small blunt tubercles form a slight protuberance on the thoracic segments, and are found very faintly marked

on the abdominal segments. The head is always concealed by the anterior protuberance of the buckler; the antennæ are almost always inactive. The abdomen, often short and contracted, becomes elongated towards laying-time, and there can be easily seen one, two, or sometimes three eggs, in a more or less mature state.

The egg sometimes retains its yellow colour for one, two, or three days after it has been laid; more often, however, it changes to a dull-grey hue. From five to eight days generally elapse before it is hatched. The duration of this period depends a good deal on the temperature. The quantity of eggs, and the rapidity with which they are produced, are probably determined by a variety of circumstances—the health of the insect, the quantity of nourishment it is able to obtain, the weather, and perhaps other causes. A female which had produced six eggs at eight o'clock A.M. on the 20th of August, had fifteen on the 21st at four P.M.—that is, she laid nine in thirty-two hours. Other females lay one, two, or three eggs in twenty-four hours. The maximum quantity is thirty in five days. The eggs are generally piled up near the mother without any apparent order, but she sometimes changes her position so as to scatter them all around her. They have a smooth surface, and adhere lightly to each other by means of a slimy matter which attaches to them.

Phylloxera vastatrix (J. E. Planchon).—Female specimens and their eggs. *a*, antennæ; *b*, horns or suckers; *c*, egg plainly visible in the body of the insect; *f*, winged form of the insect. All magnified.

Hatching takes place through an irregular and often lateral rent in the egg, the empty and crumpled membrane being found among the other eggs in different stages of hatching.

During the first period of their active life—two, three, four, or five days, as the case may be—the insects are in an erratic state. They creep about as if they were seeking for a favourable situation. Their movements are more rapid than those of adults. They appear to inspect, as it were, with their antennæ the surface they travel over. The movements of the antennæ are generally alternative, and, if the comparison may be pardoned, are not unlike the two sticks of a blind man, which he uses to explore the ground he is about to tread.

After a few days of this errant life, the young insects seem to fix upon a spot to settle in. Most frequently this is a fissure in the bark of a Vine, where their suckers can be easily plunged into the cellular tissue, full of saccharine matter. If you make a fresh wound on the root by cutting off a little piece of the bark, you may see the "pucerons," range themselves in rows around the wound, and once fixed, they apply to the root their antennæ, which appear like two small divergent horns. At this period of their life, about the thirteenth or fourteenth day after their birth, they are more or less sedentary; but they change their places if a new wound is made on the root, which promises a fresh supply of food.

What sense is this which directs these subterraneous "pucerons" towards the place which is most suitable for them? It cannot be sight, as their eyes are merely coloured spots, and they creep as if they were blind. It cannot be hearing, because they seek no prey but a vegetable tissue. It is probably the sense of smelling; and one may well ask if the nuclei which appear enshrined in the last articulations of the antennæ are not the organs of this function, the seat of which has been so much disputed? Among these non-adult insects, attached by their suckers to the Vine root, are seen, here and there, some of middle size. Their colour is a deeper orange, the abdomen shorter and more squarely formed. These individuals are more sedentary than the others. I have sometimes imagined they might be wingless (apterous) males of the species; but as nothing has happened to confirm this very problematical hypothesis, and as I have seen undoubted females much resembling these examples in colour and form, I incline to the belief that there are no sexual differences among them. A kind of double moult precedes the adult state. The first takes place shortly after birth, the second after laying time. Some uncertainty, however, hangs over the number of these changes, as the cast-off skins are often found mixed up with groups of "pucerons" of different ages, and it is difficult to distinguish them. On the morbid tuberosities of the fibrous Vine roots, or on the offshoots of the roots, the "pucerons" (perhaps better nourished) seem to pass more quickly through the different phases I have described; but excepting that their colour is paler, they present no marked difference.

The winged form of the Phylloxera might easily be taken for a separate species. The rare specimens which I have seen have all come from the "pucerons" nourished on the newly-attacked Vine radicles. In their infant, or it might be called their larva state, they resemble those which I have suggested may be males, but the buckler soon becomes more strongly marked than in these last; and a kind of band seems distinctly to define the separation between this and the abdomen. The sheaths of the wings, triangular-shaped and of a greyish colour, appear on both sides of the buckler. It is easy to predict the advent of a winged insect from this chrysalis. When one of these nymphæ is seen to quit its place and to crawl over the root, or up the side of the bottle where it may have been put, its transformation is near. Soon, instead of a sort of pupa, a beautiful little fly appears, whose two pairs of wings, crossed horizontally, are much larger than its body.

It impossible to doubt the identity of this insect with the "puceron" which formed one of the swarm on the Vine root. The details of the structure of certain organs—the antennæ, claws, tarsi, and suckers—establish their identity.

The horizontal position of the wings completly distinguishes the Phylloxera from the true Aphis, whose wings are always more or less inclined upwards. The two larger wings obliquely oboval and cuneiform, have a lineal areole on the larger basilary half of their outer edge; and this is enclosed in an interior nervure, which answers, I suppose, to the radial muscle. One single oblique nervure (or corneous division) is detached from this last, and reaches to the inner edge. Two other lines start from the end of the wing, and, becoming narrower as they proceed, advance towards the oblique nervure but end before reaching it. These are not, perhaps, nervures, but rather folds, for I have observed them absent.

The inferior wings, both narrower and much shorter, have a marginal nervure running from the base to the middle, but it loses itself in a gentle protuberance, which the wing shows in this place; a radial nervure runs parallel to the first, and disappears before it reaches the same spot.

The eyes, black and relatively very large, are irregularly globular, with marked conical nipples; their surface is granular, but a pointed depression is observed in the centre of each glandule. A round eye-shaped spot occupies the centre of the forehead.

Among fifteen winged specimens of the Phylloxera which have come under my notice, not one has presented any sexual difference. Almost all of them laid two or three eggs, and their death, which happened soon after, may have been caused by their imprisonment in the bottles. Their eggs resembled those of the wingless Phylloxera, and though they were only two or three in number, they completely filled the abdomen of the mother. They were easily seen by placing the insect under the microscope. I do not know how long the eggs remain before they are hatched, or if they always produce the winged form of the insect. It is probable that these winged individuals serve for the transportation of this insect plague to a distance; not that their wings would serve them for a rapid flight—they are too inactive, they move them very little, and in rising from the ground their horizontal position is preserved. My observations were, however, made under very unfavourable conditions, the insect being in a state of captivity; but I suppose that even in a natural state the wind is the principal agent for the dispersion of the Phylloxera, as it is for many of the insect tribe. In any case, the discovery of this form of the Phylloxera provided with wings, and evidently fitted for an aërial life, is sufficient to explain the hitherto embarrassing fact of the rapid spread of the Vine plagues. As to the spread of the disease from one Vine to another, the wingless "pucerons" may suffice for this, as, grouped in great numbers about the lower part of unhealthy Vine stems, they might easily attack the Vines nearest them, even if they be healthy. It may be asked in what manner these insects manage to travel from one Vine stock to another, and how they contrive to reach the fibrous roots of the newly-attacked stocks? Do they

burrow under the soil, or do they not rather travel along the surface of the earth under cover of the darkness and coolness of night, and then, traversing the fissures in the bark, arrive in this manner at the extremities of the roots? This conjecture is a probable one, and the following experiment supports it:—

In a case a yard long I placed some garden soil from Montpellier, a place entirely free from the Phylloxera. In this earth I carefully laid some pieces of Vine cane infested with wingless "pucerons." I placed a hand-glass over each cane, and slightly raised the glass on one side in order to allow the insect to creep out. At three centimetres' distance from the piece of cane I put some fragments of root from a healthy Vine, on which I had made fresh wounds. In twelve hours the following results were obtained: Three "pucerons" had found their way from one of the Vine canes to the nearest piece of Vine root. Some days after, twenty young "pucerons" occupied the same fragment. A few insects were to be found on the other fragments. One piece of root had attracted none, but the Vine cane nearest to it had very few insects upon it which were capaple of changing their places.

A similar experiment has been made by M. Frédéric Leydier at the farm of Lancieux, near Sigondas, a part of the country already infested by the Phylloxera, and by another person near Sorgues. The results of these experiments have not been satisfactory; but this does not prove that, under other conditions, or with greater amount of perseverance, they might not have been successful. It is fortunate that this new enemy to the Vine attacks it in the first instance at the base of the stem, and not underground at the fibres. As it is, a thorough dressing of the bottom of the stem with coal tar will probably prove an insurmountable obstacle to the progress of this destructive insect; but were the case otherwise, it would be very difficult to get down deep enough to reach an enemy so well protected by the depth of the soil.—(*The Gardener.*)

CUCUMBER CULTURE.—No. 6.

There is so much difficulty in procuring fermenting materials for beds, and so much labour and litter are occasioned by them, that they must give place to pits and houses heated by hot-water pipes, that being a less uncertain method of heating, while any amount of heat can be obtained at all seasons with a sufficiency of piping and proper heating apparatus; indeed, there are very few places where Cucumbers are required in winter, or early in the year, in which pits or houses heated by hot water are not provided. Of these, I shall describe one of each.

The pit, *fig* 1, is, perhaps, the best for general purposes, but it has this disadvantage, as compared to a house—namely,

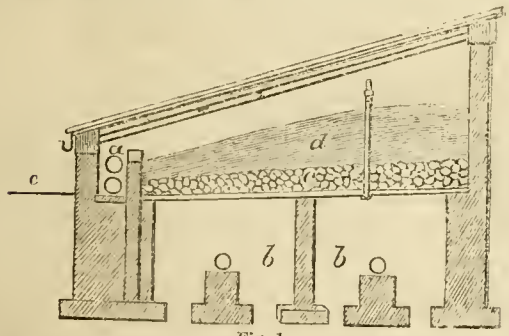


Fig. 1.

that there is no pathway, so that access cannot be gained to the plants in cold weather without drawing up or down the lights. It is constructed in the ordinary way, being partially sunk in the ground. There is a chamber covered with flags, resting on the side walls. Up to that height the back wall is 9 inches thick, and half a brick thick for the remainder of its height. The front wall is taken up much wider, to give a proper width for the support of the flags and the pipes, as well as the 4½ wall dividing the bed from the pipes. The flags are supported in the middle of the pit by a 4½-inch wall. The pipes for top heat, *a*, are in front; those for bottom heat, *b*, in the chamber. The pipes for top heat are flows, and those for bottom heat return pipes. The reason of having a chamber is that one uniform heat may be afforded to the bottom of the bed, and the joints of the flags not being closed, the heat will be communicated to the drainage, *c*, placed on the flagstones, and be genial and regular, which is not the case when the pipes are placed in contact with rubble. The difficulty is to make the heat spread, and it does so completely in a chamber, the great heat immediately over the pipes being distributed, and a uniform heat given throughout. To lessen the bottom heat, if it should become too high, a 2-inch iron pipe is inserted at every 3 feet; it must be long enough to reach from the chamber *b*, through the drainage *c* and soil, *d*, the upper end being fitted with a wooden plug, which can be taken out partly or wholly when it is necessary to reduce the bottom heat. There is no waste of heat by doing so; on the contrary, a moist heat, at times desirable, is obtained in the atmosphere. The heat of the bed should be ascertained by a ground thermometer thrust in about 9 inches. Over the flags 6 inches of rubble should be placed, and on that a thin layer of sods, or the rougher parts of the compost, so as to keep the drainage free; then from 10 inches to a foot deep of soil, leaving from 12 to 15 inches between that and the glass for the plants. The ground level is shown at *e*.

Fig. 2 represents a house suitable for Cucumbers. It is heated by hot-water pipes, and has a chamber, *a*, along which

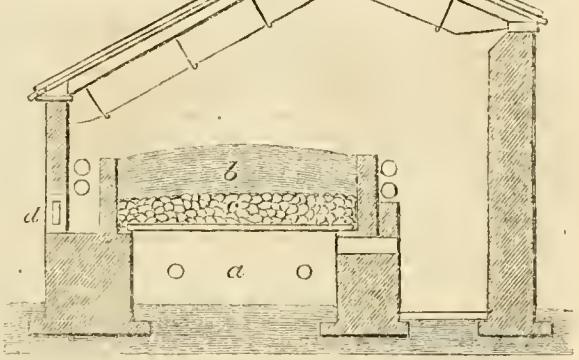


Fig. 2.

run two rows of 4-inch pipes, and they give the requisite heat to the bed above it, *b*. The chamber *a* is covered with slate or flags, thick enough to carry the weight of drainage and soil. In the side of the chamber next the walk there are openings at about every 3 or 4 feet, each of them fitted with a frame and close-shutting door. This may be opened when the bottom heat becomes too high, or shut, as required. Over the chamber there is a depth of 6 inches of drainage, and then the soil, *b* about 1 foot thick. In the front wall openings are left at 4 feet apart, or 3 feet between the openings; these are about 1 foot wide and long, have a frame the thickness of the wall, and are shut by close-fitting doors, as shown at *d*. They are for ventilation, and the air entering beneath the pipes must have its chill taken off before it comes in contact with the plants, and when the top lights are open the thorough ventilation of the house will be secured. The plants are to be trained to a wire trellis fixed not nearer the glass than 9 inches, nor further from it than 12 inches, the former distance being preferable. The wires may run up or across the rafters, and should be not further apart than 6 inches, for when they are wide apart the shoots cannot be tied as could be wished.

The pipes giving top and bottom heat, whether in pits or houses, should be so fixed and contrived that a complete and separate command of both top and bottom heat will be secured, each being entirely cut off by stop-cocks or valves, or worked little or much, according to circumstances.

The sides of the bed, for supporting the soil and drainage, being of 4½-inch brickwork, should be set in cement.

The scale to which the pit and house are drawn is 4 feet to the inch.—G. Abbey.

RHODODENDRON CULTURE.

It is not surprising that a plant possessing so many good qualities as the Rhododendron should become a general favourite. Almost exceeding many of our native plants in hardiness, all

that can be desired in habit, and affording as great a diversity of colour as any flower, it deserves more attention than it usually receives, and certainly more than many plants that are eagerly sought after. Perhaps one reason of its being less extensively cultivated than it ought to be, is the idea that only a certain description of soil suits it. This popular idea is certainly carried farther than is proper, and I will endeavour to show that the plant, or at least the common varieties of it, can be grown in more kinds of soil than usually supposed, so that there are probably many places where it might be planted with advantage, if right means were taken at first to insure success. Unfortunately, this is not always done, and the consequence is a failure, when it might have been avoided, and the cultivation of the plant is abandoned. Perhaps a little consideration of the conditions under which the plant was growing prior to its being tried on such a spot, may tend to explain the reason of failure, and point out a course more likely to be successful.

This plant seems to flourish best in the dry upland peaty soils which are met with in many districts; there its cultivation is desirable, and although for special purposes we often see large quantities of suitable soil removed to a considerable distance to make a bed, this cannot be done in all cases where the Rhododendron is to be grown. On the other hand, it must be admitted that there are many soils and situations where this plant will refuse to grow, but then these are much fewer than is generally supposed, and a due regard to some other points of the plant's culture will show that the number of intermediate sites or soils is very large, and that there are not many neighbourhoods which do not possess a suitable soil. Few plants more readily adapt themselves to removal than the Rhododendron, provided the operation be performed at the right time, and in the right manner. The subject is so important, and the cases where failure occurs so numerous, that some remarks on these, and the mode to obviate them, seem desirable; I shall, therefore, under different heads make the remarks which may seem applicable.

Soil.—Although much as has been written on this, I believe there are few who have planted the Rhododendron extensively on different soils who will not acknowledge they have been several times deceived in the results. Either the plants have not succeeded well when they were expected to do so, or they prospered where they were scarcely expected to grow at all; in fact, the soil requisite to support the healthy growth of this plant is far from being generally understood, and often a just knowledge of the matter is only attained by a trial. A number of plants are tried on some soil that appears to be suitable, and the result watched with interest; if successful, all is well, but if otherwise, the ingenuity of the planter is set to work to ascertain the cause, and a trial elsewhere is, perhaps, determined upon. I will now direct attention to the soils and situations in which this plant is found to thrive with more than ordinary luxuriance, and I will endeavour to point out how far they can be imitated elsewhere.

In taking a casual survey of certain districts, it will often be found, that although a certain class of soil generally prevails, now and then patches of quite another kind are met with, entirely surrounded by soil of the prevailing character, and varying in size from less than an acre to the extent of several parishes, and it not unfrequently happens that suitable sites for the Rhododendron occur in such isolated plots. For instance, some places in the neighbourhood of Dorking are well adapted for the growth of the plant in consequence of the favourable soil cropping out, while the district generally is chalk, with a thin crust of overlying soil almost as white as the chalk itself; yet here and there patches of peat, or a close resemblance to it, meet the eye, while farther westward in the same county peat appears to form the staple soil of the district, extending from almost the centre of Surrey a considerable way into Hampshire, with occasional breaks and irregularities. This neighbourhood, so favourable to the growth of the Rhododendron, has been taken full advantage of, and some of the largest nurseries for the rearing of plants have been formed there.

Other districts also furnish similar sites. A peaty soil well adapted for the purpose exists in large breadths throughout many of the midland and western counties, Cornwall affording as many varieties of soil, with as large a proportion favourable to the growth of this plant, as any county. Speaking, too, without a thorough knowledge of the matter, I believe most of the eastern counties possess a much less extensive range of dry upland peat, although that of a marshy kind may be plentiful enough. Large tracts, however, exist in Derbyshire and Staffordshire, but the wet mosses of Lancashire have to endure a course of draining and cultivation before they become fitting abodes for this highly ornamental plant. Farther north peat is plentiful, and it is questionable whether any spot in the northern part of the kingdom can be found which is ten miles from a peaty moor, or some place of a like kind. Indeed, I am certain that there are not many places in any part of the kingdom half that distance from some spot where the Rhododendron will flourish, for a black peat is not the only soil that it will thrive upon, as it often exhibits every appearance of vigorous health on soils that to an ordinary observer look the very opposite of peat, and these, too, so different from each other, that I am convinced the numerous places suitable for the growth of the plant, have not yet had a fair trial. The black sandy peats of Surrey and elsewhere, with scarcely a stone in them as large as a boy's marble, bear no resemblance to some upland gravels, where stones varying in size from that of a cricket ball to a bean, form at least three-fourths of the staple material the plants have to grow in, and yet fine healthy plants are met with blooming abundantly.

Colour of soil is no criterion, for a light grey, bright yellow, and now and then a dark red, as well as all intermediate colours, seem to answer almost as well as the black peat, while occasionally the latter is rejected. Most low-lying peaty morasses are unsuitable, especially those from which peat is dug for fuel. A period of cultivation may bring them into a suitable condition, but such peat is not so in its crude state; indeed, I hardly know what crops are most suitable for low, flat, peaty mosses, scarcely raised above the ordinary water level. I would caution the inexperienced against using this boggy peat in the formation of Rhododendron beds, as I have seen evil results more than once arise from its being employed. I cannot clearly say why it is so, but it would appear that the long period during which the moss has been soaked with water, has rendered it unfit, for a time at least, to support vegetation of any kind, except the few species which occupy it in its natural condition, and the Rhododendron is not one of them. I have seen several fruitless attempts to obtain a healthy growth of this plant in situations of the kind referred to.

A soil which of itself contains all that is wanted for the well-being of the Rhododendron, is infinitely superior to any mixture of ingredients that the most skilful or scientific operator can make. Although many plants seem to relish the composts made for them, it is but seldom the Rhododendron does so, while very often the worst results follow. Therefore, when the natural soil of the place appears to be favourable to the growth of the Rhododendron, it is best to let it alone. Adding other materials is often injurious instead of beneficial.

When the natural soil presents the features which are favourable to Rhododendrons, try to grow these. The indications are weeds and other natural growths, and after much experience I have found no reason to depart from an opinion I gave many years ago, that one of the best tokens of a soil suitable to Rhododendrons is the common Foxglove, which if seen growing extensively in a wild state, I regard as denoting suitable soil—as much as the Heath, and certainly much more so than the common Brake Fern, although both the latter are generally associated with the Rhododendron when it is left to Nature. Some allowance must, of course, be made for the forms under which each is found; usually the Brake (Pteris aquilina), disappears in tilled ground, but this is not the case with the Foxglove, the latter flourishing in dry ground; while the wild Heath is often found in positions where there is scarcely the depth of soil necessary for Rhododendrons. Amongst trees, the presence of Birch and Scotch Fir often indicates a suitable soil; that of Beech the contrary. Furze is often found along with Heath, but it is not so safe a guide as the Foxglove. Perhaps, however, the Bilberry or Whortleberry may be taken as the criterion of a first-class Rhododendron soil; but this plant is not so widely disseminated as the preceding, and Rhododendrons will thrive well where this highland fruit is rarely met with, often in places far removed from it and similar moorland productions.

As compared with the greater proportion of the land adapted for agricultural purposes, that suited to the Rhododendron would be regarded as poor and unprofitable, producing very indifferent grass crops, and not the best of corn. When the depth is sufficient, Potatoes may be grown, as on the extensive levels of western Lancashire; but in the latter case the benefits of the soil are more than neutralised by the natural disadvantages of the strong sea breeze. Besides, generally the

Rhododendron requires an elevated rather than a low situation, although it does not suffer in the latter, and it can endure any degree of cold which occurs in England.

A gravelly soil sometimes suits Rhododendrons, sometimes a certain kind of sand is equally beneficial, while now and then ground composed almost entirely of stones, and these often large ones, seems equally serviceable in supplying the wants of the plant. At a short distance from where I write, many hundreds of Rhododendrons are growing in a soil of the latter description; stones angular, as if recently broken, being mixed up with a yellowish soil by no means prepossessing in appearance, and the stones forming at least two-thirds of the whole. Many of them are three or four times the size of road metal, and a less likely place for success could not well be found, yet the plants flourish remarkably well in it; and during the hot weather we had last summer, I did not perceive indications of any flagging or injury in any of the plants at that place, while at others full-grown plants in prepared beds succumbed to the heat and drought. The situation is elevated, being 400 feet or more above the sea level, and the stones found upon it are hard and well-adapted to road-making, although widely different from flint and Kentish rag. It cannot be too well known that the character of the stones found upon land constitutes an important feature, and their too extensive removal has often been attended with bad results.—J. Robson.

(To be continued.)

NOTES AND GLEANINGS.

We are requested to state that plants will be received at the Royal Horticultural Society's Manchester Show, up to 9.30 A.M., on Monday, July 19th, and fruit and cut flowers up to 11 A.M. This arrangement, we think, will be most satisfactory to exhibitors, as it will enable a large number to leave their homes on the morning of the Show, instead of on the Saturday, to the great deterioration of the beauty and freshness of cut blooms especially. Without counting numerous entries in the cottagers' classes, there are upwards of 430 entries of Plants and Flowers, and 400 of Fruit and Vegetables.

—— Hamburg International Exhibition.—Her Majesty has graciously intimated her intention of offering a silver cup for the best collection of Grapes, to be competed for under certain conditions at this Exhibition. The arrangements for the transmission of horticultural specimens, both fruit and flowers, we are informed, will be such that it will entail but little expense on exhibitors, who should at once communicate with Mr. Eyles, Royal Horticultural Gardens, South Kensington.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Let an abundant supply of *Brussels Sprouts*, *Kale*, *Savoys*, and *Broccoli* be planted-out as speedily as ground can be obtained for them; and where it cannot be had at present to the usual extent, see that the plants are either pricked-out or sufficiently thinned to allow of their growing dwarf and strong. If a good portion of old Mushroom-bed dung were mixed with the soil before pricking-out, the roots would run into that, so that the plants might be removed with balls, and would hardly suffer from the shift. *Cabbages* sown at this time will afford a late and very useful supply of young heads. Sow *Cauliflower* and Walcheren *Broccoli*. Ridge-out a good portion of *Celery*, and slightly earth-up the early ridges; also plant-out *Leeks* in strong, deep, heavily-manured land. A crop of *Dwarf Kidney Beans* should be sown under a south wall for a late supply. If not already sown, lose no time in putting in *Lettuce*. In some instances *Potatoes* are reported to be diseased; those on soils most unfavourable to their keeping sound should, therefore, be taken up and used first. Prune-off superfluous shoots from *Tomatoes* against walls, that they may not shade the ripening fruit. The leading shoots may be pinched-out when sufficient fruit is set; this will assist in ripening the crop.

FRUIT GARDEN.

Look over espalier Pear, Apple, and Cherry trees at least once a-week, and stop and shorten the shoots. The removal of superfluous wood may also be effected at this time with advantage to both the tree and the fruit; it is always advisable to afford the latter the advantage of full exposure. Let the shoots of Peach, Apricot, and Plum trees be trained at once to the wall. Proceed with the layering of Strawberries for forcing, and let them be kept watered. Fruit trees in general may now be budded.

FLOWER GARDEN.

Go over beds frequently, keeping the young shoots of Verbenas neatly regulated and pegged down until the surface of the ground is well and fairly covered, after which the shoots of most varieties may be allowed to ramble at liberty. Keep down weeds, and if the weather should be such as to render watering necessary, do not let the plants feel the want of moisture at the roots. Cuttings of choice herbaceous plants, Carnations, Picotees, &c., put in early, should be pricked-out or potted immediately they are struck, in order to become established. Early-struck Pansies may be planted-out for early blooming. Young seedling Wallflowers, Brompton Stocks, Sweet Williams, and other biennials, should either be planted-out in reserve beds, or where they are to flower. The propagation of bedding plants must soon be commenced; therefore, make notes of desirable new kinds. The present will prove a favourable time to propagate by cuttings most tender kinds of Roses. Choose the ends of the shoots for the purpose, with the bottom part partly ripened. Noisette, Bourbon, China, and Hybrid Perpetual Roses, will strike freely in sandy soil, if selected as just directed. Cover the blooms of Carnations and Picotees as they expand, placing cardboard collars beneath them. Layering may be commenced, beginning with the grass or shoots which are most forward. A stone placed immediately over that part which is pegged in the ground, will speedily insure its rooting. Look to Dahlias, thin-out where required, stake, tie, mulch, &c. As the pipings of Pinks root, prick them out in good ground. It will be advisable to place some in small pots, to shelter during the winter. We again urge on all cultivators of those beautiful flowers, the Ranunculuses, to watch their ripening, take them up as the leaves turn yellow, and allow the tubers to dry in the shade. Seedlings in pans or boxes should be placed under cover, and in the course of a few weeks, the tubers, which are often very small, should be carefully taken up. Some florists allow them to remain in a dry state until the time arrives to plant them in spring. Cut off the seed vessels of Tulips, and lay them up to dry; trench over the bed intended for autumn planting, and prepare the soil necessary to renovate it.

GREENHOUSE AND CONSERVATORY.

If bright summer weather should set in, the beds and borders of the conservatory must be liberally supplied with water, and specimens or twiners, upon which red spider is likely to be troublesome, should be well washed with the garden engine as often as may be necessary to thoroughly clean them. Plants in bloom must not, however, be dashed overhead with the engine; everything blooming in pots should, therefore, be moved out of the way, and other plants spared as much as possible. If former directions have been attended to, little inconvenience will be experienced from red spider, except, perhaps, in the case of plants in a weakly state, or in ill health, which should be placed by themselves, and receive special treatment till their energies be restored. Remove all decaying leaves and flowers the moment they are perceived, and endeavour to have a good supply of specimens in full beauty, to take the place of such as may be going out of bloom. Greenhouse plants generally should now be out of doors. Most hard-wooded plants in frames will likewise be benefited by exposure to night dews; for that purpose, therefore, the lights should be removed in the evening, replacing them in the morning, and shading during bright sunshine, but giving air freely both back and front, or, which is better, tilting the sashes at the sides—a practice which does not subject the plants so much to currents of drying air. Plants in want of more pot room should be shifted as soon as possible, so as to have them well established before winter; but in shifting now, care must be taken to have both balls and soil in a proper state as regards moisture, and the plants must be carefully shaded, so as to keep the atmosphere as moist as possible for a week or two after shifting. Let any repairs required to be done to plant houses be seen to while their occupants are out of doors. Show houses should now be kept as gay as possible, especially the conservatory, which must be supplied with the finest plants in bloom from the reserve houses. Carefully tie out the different varieties of Lilium lancifolium before they come into flower. Two other good autumn plants should likewise have similar treatment—viz., Crowea saligna and Plumbago capensis; these are invaluable for purposes of autumn decoration as are also the different kinds of Kalosanthes. Shift Chrysanthemums, and stake them securely as they advance. The stock of autumn and winter-flowering plants should not be

stopped after this, but ought to have every encouragement to assist in ripening their wood early, that no difficulty may arise in flowering them at the time wanted. Daphnes, Oranges of different kinds, Myrtles, and Gardenias intended for forcing should be removed to a cool, airy house to rest.

STOVE.

If there are sickly or bad-rooted specimens here, they must be frequently examined for red spider, otherwise they will become a nursery for this pest, from which it will soon spread to adjoining plants. See that young growing stock is not allowed to suffer from want of pot room, and attend carefully to watering, giving manure water to all plants in free growth that enjoy it. Gardenias, &c., which have been removed to the conservatory while in bloom, should be replaced in heat as soon as their beauty is over, in order to allow of their growth becoming ripened before the dull, cloudy days of November set in. Although shading Orchids must now be promptly and carefully attended to, allow them as much light as they will bear without injury, using a very light screen when absolutely necessary. Keep the foliage clear of insects and dust by frequent syringings or spongings, as may be necessary.—W. KEANE.

DOINGS OF THE LAST WEEK.

THE week up to last Friday was dull and cloudy, and yet what a hay week it has been. "Make hay whilst the sun shines," is all very well, but too bright and fierce a sun parches the hay, and extracts much of its nutritive properties. Great breadths of hay were carried in first-rate condition, though it had scarcely a gleam of sun, never was wetted by a shower, and scarcely was damped by dew, as we used our small grass-cutting machines on the lawn at six in the morning, a thing we can rarely do. Such hay has a peculiar beauty and greenness, and was thoroughly made with a turning or two, giving out when stacked an odour like a tea chest. We never knew such a good week for saving fine-made hay, and the comparative absence of sun, and a dry atmosphere, were just the conditions to leave the best properties in the hay. The bright sun has told on everything at last. Cauliflowers and other vegetables, after the dull weather, began to flag, and to make sure we gave water to the most exposed Calceolarias. Surface-stirring the ground was our great resource for retaining moisture and excluding extra heat, as we found that cracking was commencing in our heavy soil. In flower beds, even the spaces next the grass, and the outsides generally, were showing cracks, and the filling them up, and preventing more being made, were effected by surface-stirring with a Dutch hoe. In most departments, the work was chiefly of a routine character.

KITCHEN GARDEN.

In this department we managed to plant-out much, to prick-out more, and to pretty well attend to the wants of all. Our water at hand is getting a little low, but there is a fair supply in ponds at a distance, and whilst we economise what is to be had near we use some from a distance, believing that a good shower will come ere long, renewing our supply, and benefiting the Turnips in the fields. These will not greatly suffer as yet, as in uncropped land there is plenty of moisture beneath. What a difference the cropping makes. Some of our ground that stood uncropped for a little, turned up fair for moisture, whilst other pieces from which heavy crops were removed, seemed to have lost all the moisture to the depth of 18 inches. It was of no use sowing in soil thus deprived of its moisture, without previously watering the rows before sowing or planting.

We are almost ashamed at times to dwell on such simple details, and would not do so but for the frequent encouragement that it is just such minute details that so many readers want. Thus we read, "Thanks to your hints on sowing Cabbage seeds, I now know I erred in repeated surface-waterings." Well, ours are coming through the dry surface-covering beautifully, and we know they have moisture enough beneath them.

In sowing a piece of fresh Turnips and Radishes we drew shallow drills, and run the spout of the watering-pot along the drills before sowing; thus giving a moist bed for swelling the seeds, whilst the surface will be left dry and open to retain the moisture. In planting Coleworts and Cauliflowers, we draw little trenches, so that after puddling the roots we could water afterwards. To make them all safe in such weather they will want two or three waterings before they can hold up their heads to the sun without flinching, which indicates that the roots have taken hold of their new quarters. Then, if the dry weather continue, we shall turn a little of the dry soil, an hour after watering, into the little trench, and that will do something to arrest evaporation. Here, again, the first Peas out of doors, though still producing, are not exactly in a condition to be worth watering; but the second succession, podding heavily, with Beans between them, show a little distress, and the soil has been surface-stirred, and then watered, and if we could have done so we would have mulched afterwards with litter or short grass.

As a proof of rather close cropping, we may mention that our first Peas were in rows 3 feet 9 inches apart. In the centre between them was a row of Dwarf Fan Cluster Beans, and Beck's Gem, and on each side of that a row of Lettuces between the Beans and Peas. Most likely we shall have Cauliflower on the ground—just a row where the Peas stand, and then another where the Beans are, for succession, the one coming in a little before the other. Allow us to recommend the above little Beans to all amateurs who like a well-flavoured tender Bean, and have little room to grow them in. We have just examined a few of these Bean plants, shaded as they are on each side by the Peas, and find that they average a foot in height above the soil, have from twelve to twenty full-sized pods from 3 inches in length, besides smaller ones, and these larger ones containing each from two to three fine sweet beans. Of course, they do not fill a large dish like the Windsors and the Long-pods, but still as furnishing young soft beans in little room and great quantity, they are exceedingly useful.

With regard to Cauliflowers, which never come amiss, our first crop which, with the exception of a few flowery heads already referred to, turned out very fine, is now nearly over, and the next coming in; but the third and fourth small lots—for we cannot afford a quarter at a planting—began to show the effects of the weather even before the sun became so bright, acquiring a slaty bluish tinge on the leaves, which no Cauliflower-grower likes to see. We watered and watered, but still the distressed appearance did not leave the plants; but on resorting to one of our favourite cures—a little mulching with rotten dung and short grass, the plants improved as if by magic, and have stood the fierce sun without flinching. Unfortunately we have, as referred to lately, put most of our heap of short grass and litter out of sight; but if this weather last, we shall cut what otherwise might have been allowed to remain a little longer, for the purpose of mulching, and even dry litter will be brought into requisition. In many respects mulching becomes a substitute for the watering-pot. In planting afresh we have chiefly used the plants previously pricked-out, and, therefore, to some extent lifted with balls, and watering as they were planted with the trowel was generally sufficient to keep them right. To our readers, then, who are scarce of water, or wish to lessen the labour of *watering*, we would say, Surface-stir the ground and mulch if you can with any rubbish you can obtain, and which will keep the sun's rays from striking on the surface of the ground. A little mulching will render frequent waterings unnecessary. If we have a week of such weather we shall try hard to have some mulching, even if it be long litter or rough grass, along the rows of Peas, Beans, Cauliflowers, &c. The only time when mulching is injurious is when it is used for tender plants, for which the ground, if it is moist enough, can scarcely be too warm. For instance, for semi-tropical plants keeping the ground cool would be a mistake, and all mulching is, therefore, most effectual when used after the ground is warm enough for the plant mulched.

For reasons incidentally referred to we have pricked-out lots of Cauliflowers to be transplanted afterwards when tolerably well established, and it is easy to shade them in such temporary quarters by placing wattled hurdles over them, supported on flower-pots at the corners.

Salading has been good and plentiful, but it will be apt to run to seed, particularly when fully exposed in this weather, and we have, therefore, planted-out some fair-sized plants on the north side of a fence, where they will stand longer and be more crisp than if they had more sun. We shall follow in the same place with successions, for though we believe that the best plan for producing fine Lettuces is to sow thinly where they are to perfect their crop, yet shortness of room makes us often resort to transplanting. Nothing is more improved by a little sweet rotten dung than the Lettuce tribe. Endive to stand the winter must have poorer soil, as the richer it is the more succulent will be the leaves, and the less the chance of standing the winter. For early Endive to be used before the end of October, the ground may be as rich as for *Lettuces*. When anyone wishes to surprise his friends with a very large and heavy Lettuce, almost surpassing common belief, three conditions

are essential—plenty of room, plenty of rotten manure, and plenty of weak manure-watering in dry weather. There are many larger, more showy kinds, but for summer use in small gardens, few, if any, can beat Snow's Matchless; it is so compact and hearts so firmly, that when you take hold of the outside, you might fancy you had the bole of a small tree instead of a Lettuce. To our regret we have lost the true kind. It is often confounded with Snow's Compact Green, a very different though good variety, but chiefly valuable as an early spring Lettuce, after successfully coming through the winter.

We may mention as regards Turnips, that we have been much assisted this season by an early white, called the Flat-topped White. We are unable to say whether it may not be out under some other name, but with us, in earliness, it has been a great acquisition, bulbing so soon, and having but a small head of foliage. We have for years passed off, or tried to do so, crisp White Turnip Radishes for small early Turnips, but with such kinds as the above, even that little ruse will be little necessary.

FRUIT GARDEN.

We are behindhand with summer-pinching, &c., owing to a press of other work, but we hope soon to accomplish all. Some trees require it less this season, feeling the effects of the drought last year. We have been obliged not only to mulch, but to water the later Strawberries. *Birds* are rather troublesome, but some evils at times make themselves blessings. Some scores of pheasant-coops near the garden, gave us swarms of sparrows and other birds, which made sad havoc with Peas and fruit, notwithstanding all efforts to frighten or annoy them. Now, we presume, as the pheasants grow larger, the food given is more agreeable to the sparrows, and there for a week or two they congregated in myriads, and have almost let us alone. Smaller birds might help us with Currants, for these are attacked by honeydew, and many of the leaves are marked on the under side with green fly. As soon as we can we shall remove, or rather shorten, the shoots, and then give a good washing with clear lime water before the fruit changes much, and a future drenching with clean water will nearly clear them of the pest. These and Gooseberries, after gathering for bottling, are heavily loaded.

ORNAMENTAL DEPARTMENT.

Here the fine weather is showing its effects on the various kinds of Pelargoniums. The soil is not too warm yet for them, and therefore we shall not water much nor mulch. Like the Wheat, the foliage is becoming of a richer green from the sun, and the flower trusses are now swelling and opening, so that in process of time we may expect them to be as brilliant as the Calceolarias now are. We never saw the bedders of this family finer. Some flower heads of the low Aurea floribunda are like large Cauliflowers in size. These, as previously stated, were watered last week, and were mulched with rotten dung before this bright sun came, and from that, even in hot weather, we expect a continuous bloom, as the ground with a little surface-stirring will be kept cool. Give a cool, moist soil, and the brightest sun will just suit the Calceolaria.

We hoed all beds where there was the least sign of cracking, and we shall be obliged to do a little planting by way of filling up, which would have been saved but for intruders, such as deer, making free with our edgings and Verbenas. We have the blue Cliveden Pansy eaten to the ground several times, where otherwise it would have been effective. Our good-sized plants of Coleus turned out into beds are standing the sun well. They were mulched with rotten dung after the soil was well warmed.—R. F.

COVENT GARDEN MARKET.—July 14.

Two or three sultry days have largely added to our supplies, especially of Currants, Raspberries, and Strawberries; the latter, however, are far from being first-rate, and this will certainly not be a Strawberry season. Peaches, Nectarines, and Pine Apples are plentiful. For rough goods there is an active sale. Good Lemons and Oranges are becoming scarce.

FRUIT.

	s.	d.	s.	d
Apples ..... ½ sieve	0	0	to 0	0
Apricots ..... doz.	2	0	3	0
Cherries..... lb.	0	6	1	0
Chestnuts.... bushel	0	0	0	0
Currants .... ½ sieve	4	0	4	6
Black ..... do.	5	0	6	0
Figs ..... doz.	6	0	10	0
Filberts..... lb.	0	0	0	0
Cobs ..... lb.	1	0	1	6
Gooseberries .. quart	0	3	0	6
Grapes, Hothouse . lb.	2	6	8	0
Lemons 100	10	0	14	0
Melons ..... each	2	0	to 5	0
Nectarines ..... doz.	6	0	10	0
Oranges 100	10	0	14	0
Peaches ..... doz.	12	0	24	0
Pears (dessert) .. doz.	0	0	6	0
Pine Apples ..... lb.	3	0	6	0
Plums ..... ½ sieve	0	0	0	0
Quinces ..... doz.	0	0	0	0
Raspberries ..... lb.	0	6	0	8
Strawberries .... lb.	1	0	2	0
Walnuts .....bushel	10	0	16	0
do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0
Asparagus 100	3	0	6	0
Beans, Kidney .. 100	1	0	0	0
Beet, Red.....doz.	3	0	5	0
Broccoli .....bundle	0	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0
Cabbage .....doz.	1	0	2	0
Capsicums 100	0	0	0	0
Carrots.....bunch	0	3	1	0
Cauliflower.....doz.	3	0	6	0
Celery.....bundle	1	6	2	0
Cucumbers .... each	0	6	1	6
Endive .....doz.	2	0	0	0
Fennel .....bunch	0	3	0	0
Garlic ..... lb.	0	3	0	0
Herbs ..... bunch	0	3	0	0
Horseradish ..bundle	3	0	5	0
Leeks ..... bunch	0	4	to 0	6
Lettuce .....score	1	0	1	6
Mushrooms.... pottle	2	0	2	6
Mustd.& Cress,punnet	0	2	0	3
Onions..doz. bunches	6	0	0	0
Parsley ..... sieve	3	0	0	0
Parsnips ..... doz.	0	9	1	0
Peas ..... quart	0	6	1	6
Potatoes .....bushel	4	6	6	0
Kidney.... ditto	4	0	7	6
Radishes doz.bunches	1	0	0	0
Rhubarb.....bundle	0	4	0	0
Shallots .....lb.	0	0	1	0
Spinach .....bushel	2	0	3	0
Tomatoes ..... doz.	2	0	3	0
Turnips ..... bunch	0	8	1	0
Veget. Marrows..doz.	1	0	2	0

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

Chrysobactron Hookeri.—We are informed by Mr. Smith, the able Curator at Kew, that this plant, noticed in our last number, page 20, is still in the gardens, and is healthy and flowering at this moment. It has been in the collection for the last twenty years.

Stand for Cut Flowers (*H. T., Pilley*).—Any dealer in glass, and most of the London retail seedsmen, could procure you one. We cannot recommend dealers.

Gardeners' Royal Benevolent Institution (*T. U., Plymouth*).—Apply to Mr. E. R. Cutler, 14, Tavistock Row, Covent Garden, London, W.C. He will give you every information.

Chinese Primulas (*In-a-Fix*).—You had better apply to some nurseryman in your neighbourhood.

Muscat of Alexandria Grapes Shanking (*Standstill*).—The berries were smashed into a jelly. Shanking is the result of very heavy cropping and a confined atmosphere, but more generally of deficient root action, and, of course, always appears just when there is the greatest strain on the powers of the Vine. Sometimes shanking takes place when there is a thin crop and vigorous growth; but in that case the evil is owing to the wood of the previous year being imperfectly ripened, or to the roots being too deep and too wet, and therefore the juices absorbed too crude. You will be best able to judge as to the cause. Excessive vigour from deep roots often causes the evil.

Compost for Vine Borders (*James Gornett*).—The best compost you could use for growing Vines would be as follows:—First place a layer of turves of good yellow loam, cut from an old pasture, on the top of the drainage, with the turfy side downwards, then about 2 feet deep of the following, well incorporated together. Three parts of the best maiden yellow loam you can find, one part broken bricks, or old lime rubbish and burnt earth, to every yard of which add half a bushel of ground bones, and half a bushel of charcoal. If your loam is not of a very rich and excellent character, you might add a little well-rotted manure. The addition of manure, bones, &c., is, it must not be forgotten, altogether dependant on the quality of the loam used, which of itself is such an indefinite article, varying from sand to clay, that scarcely any two soils require the same admixture. Some soils, of themselves, will produce better Grapes than others with all the ingredients added.

Ground Vinery (*A Cottager*).—Your Vine wants more action at the roots. A Vine planted in October should have been cut back in winter to from 3 to 4 inches, unless it was a very strong plant. You seem, on the contrary, to have left it at considerable length, which sufficiently accounts for its weakened condition. It should have been cut back, and its energies confined to the formation of one good shoot, which next year would bear fruit. Having been planted so late, the roots had not sufficient action to cause all the buds to break. We should recommend you now to check the growth of all the shoots excepting one, the one nearest the root, which encourage to grow to form the permanent rod, then in winter cut it well back; or, perhaps, you will state the result then, and we will again advise you. Do not allow it to bear any fruit.

Grapes Rusted (*P. B.*).—The berries are rusted. The evil is generally attributed to handling them. We believe, however, it arises from the house becoming suddenly overheated or cooled whilst the Grapes are young. The pressure on the cuticle being excessive it thickens, and rust follows. A sudden increase of heat succeeding a sudden fall of temperature, or the contrary, is often followed by this disease.

Grapes Spotted—Araucaria imbricata Losing its Lower Branches (*J. B. Boyd*).—We should think that the blotching and spotting of your Muscat Grapes are owing to spots on the glass, which should be daubed over to prevent burning. Your Araucaria is worth looking after. Remove the grass, top-dress with 3 or 4 inches of rich compost, and give a good watering. Leaf mould or rotten dung may be used. Standard Roses are injured by bedding plants round them, unless well mulched, and supplied with liquid manure.

Vine Leaves (*T. W.*).—We could discover no trace of mildew on the leaf of a Vine sent. It evidently belongs to one of the Vines that have the under side of the leaves a little downy. The other leaves appeared healthy. If you have mildew, sulphur, give more air, and keep it drier. See answer to "Kate." You will have no difficulty in obtaining a suitable man, if you apply to a respectable nurseryman in your own neighbourhood.

Vines Growing Unequally—Leaves Scorched—Thinning Grapes (*J. Mackenzie, M.D.*).—It is impossible to account for young Vines growing unequally, if treated alike, and all propagated in the same manner. We have seen many houses where every Vine was like its neighbour; but at other times, from similar plants at the time of planting, there has been great diversity. The blotching and scorching of leaves in your case, if the description is quite correct, are most likely owing to a spot in the glass, which must be looked for, and daubed with a little paint. It is very prejudicial to Grapes which set thickly, to leave the thinning until the berries are stoned. Some thin-setters may be left until the best berries show themselves. Mr. Foster's address is Beeston, near Nottingham.

Mildew on Roses (*Centurion, and H. W. E.*).—"I do not use Pooley's tobacco powder, nor sulphur for mildew. If I use anything, it is 2 ozs. of blue vitriol dissolved in hot water and added to three gallons of water. I have had mildew on my wall trees. I cut the points of the shoots off, well watered the roots, and kept the trees freely syringed, and they have grown out of it.—W. F. Radclyffe."

Twelve Roses for Half Standards (*Idem*).—"The best twelve Roses for half standards are Gloire de Dijon, Celine Forestier, Triomphe de Rennes, Charles Lefebvre, Marguerite de St. Amand, John Hopper, Madame Victor Verdier, Jules Margottin, Baronne de Maynard, Dr. Andry, Prince Camille de Rohan, and Duc de Cazes. These will give you all colours, and they are all excellent.—W. F. Radclyffe."

Roses not Blooming Well (*R Powle*).—"You must not be disheartened about your Roses. It has been a disastrous spring. We have had twenty weeks of north-east wind, and till lately but little sun. As you have added to your soil every autumn, it is probable the roots are too far removed from the action of the sun and atmosphere. In November take up all your trees, trench the ground, cut back the roots to their general length, and replant your trees. Remember, though Roses like firm soil, they do not like to be mortared-in. People rarely manure Roses too much. Some varieties, however, do not require so much manure as others. Whether the character of the summer is wet, or hot and dry, I keep the hoe plied over the surface; gently over the roots, and as deep as I can go between the plants. Roses have been blooming here magnificently; I never saw a finer sight. Some of my trees have been in bad health, but they are recovering.—W. F. Radclyffe."

Coniferæ Fruited in England (*P.*).—One of our correspondents in Kent has the following species in cone—viz., Abies Morinda and A. Menziesii, Araucaria imbricata, Cupressus Corneyana, C. Lawsoniana, C. Lambertiana, C. funebris, and one or two more Cypresses, of which the species are not ascertained; Cryptomeria japonica, C. Lobbii; Chamæcyparis thurifera and another Chamæcyparis; Picea cephalonica, P. Webbiana, and P. nobilis; Pinus insignis and P. excelsa; Retinospora obtusa, R. squarrosa, R. pisifera, and R. leptoclada; Taxodium sempervirens; Thuja Lobbii, T. occidentalis aureo-variegata, T. Menziesii, and another Thuja from Pekin; Thujopsis borealis, and Wellingtonia gigantea. He says that several of the above have fruited for many years, but that he has not had Picea Pinsapo in cone yet, although he has a tree nearly 40 feet high. The largest and finest-looking cones are Araucaria imbricata, Picea nobilis, and P. Webbiana, the latter a beautiful purplish-black. All the Conifers you name have produced cones in this country.

Red Spider on Melons (*J. B. N.*).—The leaves appear to have been infested with red spider, though we could not discover any. The only mode of destroying it is to coat the inside of the frame or pit with flowers of sulphur, brought to the consistency of paint by the addition of 2 ozs. of soft soap to a gallon of water, previous to which the plants should be syringed with soot water made of one peck of soot to twenty gallons of water, well stirred up. Whilst wet dust the foliage with flowers of sulphur, shutting up the frame early in the afternoon, a gentle sprinkling of water being given previously.

Dahlia Leaves Holed (*Amateur Gardener*).—We could not say what is the cause of the holes in your Dahlia leaves, but they are probably eaten by some caterpillar or weevil, or by earwigs. If the cause is a caterpillar, you will most likely find it on the under sides of the leaves; if the second, examine the plants after dark with a lantern, place a white sheet on the ground close to the plants, and shake them. The insects would then fall on the sheet. If earwigs are the aggressors, traps should be set. These may be had of any seedsman.

Pear and Apple Trees (*James Newman*).—As you are a yearly tenant we should advise, if your garden is sheltered, Pears on the Quince and Apples on the Paradise stock, both trained as pyramids; if it is exposed, dwarf or spreading pyramids would be most suitable. You may obtain trees which would fruit to some extent next year. If you have plenty of ground, and can afford to plant thickly and thin the trees out, taking out every alternate tree at the end of the third or fourth year, they may be planted 4½ feet apart. You will have room for thirty-six trees, say two dozen Apples and one dozen Pears. *Twelve Dessert Apples.*—One Margaret, two Lamb Abbey Pearmain, two Margil, two Scarlet Nonpareil, two Court of Wick, one Ribston Pippin, and two Boston Russet. *Twelve Kitchen Apples.*—Two Keswick Codlin, two Lord Suffield, two Alfriston, four Wormsley Pippin, two Dumelow's Seedling. *Twelve Dessert Pears.*—One Citron des Carmes, two Williams's Bon Chrétien, two Beurré de Capiaumont, two Louise Bonne of Jersey, two Beurré d'Aremberg, two Bergamotte Esperen, and one Beurré Diel. The best time to plant is early in autumn, after the leaves have fallen.

Grass Seeds for Light Sandy Soil (*J. F. K.*).—Mix 3 lbs. of Meadow Foxtail, 3 lbs. of Golden Bristle Grass, with 4 lbs. of Sheep's Fescue Grass, 4 lbs. of Crested Dog's Tail, and about the same weight of both Italian and Perennial Rye Grass, with 4 lbs. each of White and Red Clover, and double that quantity of Saintfoin. You may also add a little Milfoil and Yellow Trefoil, and a small quantity of Sweet Vernal Grass. The above quantities are for an acre. We would recommend you to work the land well, manure it, and sow the seed in the first week in September. Sow, perhaps, half a bushel of Barley with it for shade and shelter at starting. If you do not object to expense, you might increase the quantities of seeds given.

Cottage Garden Plan (*Amateur, Walbottle*).—We do not think you can well improve your proposed mode of arranging your garden, nor its cropping for another season, beyond being careful not to have such crops as Carrots succeeding any of the Cabbage tribe. In respect to the rows of vegetables running north and south, we do not think in your locality, where all the sun there usually is is wanted, that it makes much difference. In the south of England there are many persons who think that lines running east and west are better, as shading the ground from hot sun; but in a small garden where appearance is regarded, it is common to arrange the lines at right angles with the principal walk, and in your case we would certainly prefer those on each side of the main walk running all one way. We think lime will improve your garden soil, and your proposal to plant Currant and Gooseberry plants on each side of the main walk is good. Herbs may grow near each other, but care must be taken to prevent such robust-growing plants as Balm, from overtopping a more humble neighbour, such as Lemon Thyme. As a useful summer screen to conceal the manure corner, we have seen Scarlet Runners used with advantage, or Peas or Broad Beans might do. Rhubarb is not unfrequently used for that purpose. We hardly know what advice to give you about making Asparagus beds; it is not always that it can be made to do well. Sea-kale is better, but some means of covering it up must be thought of, otherwise as a vegetable without some such mode of blanching its shoots, no good will result from it. It would be better to try all the ordinary vegetables first. We suppose you contemplate having an Onion bed. An article on Asparagus will probably appear shortly.

Exhibiting Ferns (*New Zealand*).—The word "distinct" as used in the Manchester schedule is, where not otherwise stated, intended to apply to varieties. For instance, "twelve Ferns distinct," means twelve distinct varieties of Ferns. Twelve varieties of Adiantum, or twelve varieties of Pteris would either be admissible—any number of varieties in fact, provided there is not more than one plant of each variety. The collection, however, which would be the most distinct in character, including the greatest number of species instead of simply more varieties, other points being equal, would be the most valued, on account of its greater variety of form, and the greater difficulty of their cultivation. There should not, as a rule, be more that two or three plants of any one species exhibited in a collection of twelve Ferns.

Vicomtesse Héricart de Thury Strawberry (*T. M. Rideout*).—Any respectable nurseryman could supply you with plants. Our correspondent is not a nurseryman, and we cannot trouble our contributors with private correspondence. (*J. F. S., Accrington; P. Teale*).—See preceding answer. (*Felix*).—It deserves all that has been said of it. The synonymes given are correct. Whether the nurseryman whose catalogue you refer to had the true sort or not we do not know; and if he had it, possibly it might be of inferior merit in his soil. Apply to a respectable nurseryman, and try it. [We have already had a score of letters requesting "Archambaud" to supply plants, and to enter into private correspondence. Too much inconvenience and expense have been already caused to our contributors by their good-naturedly responding to such requests.]

Seedling Zonal Pelargoniums (*A Subscriber and Constant Reader*).—It was impossible to judge of the merits of your seedling Zonal Pelargoniums. The box contained simply a mass of petals of various shades of colour. To ascertain the merits of seedlings it is necessary that the plant should be seen. The foliage of No 1 is good, but the flowers not now in colour, and No. 9 promises well. The seedlings have this great merit, they produce large and fine trusses; but we cannot discover anything new and distinct.

Gunnera scabra and Aralia Sieboldii Culture (*F. G.*).—Gunnera requires a moist peat soil and the protection of the greenhouse in winter. It is very impatient of dryness. As you have failed to raise plants from seeds three years consecutively, we can only come to the conclusion either that the seeds are imperfect, or that they have been allowed to become dry after germination. We would advise soaking the seeds an hour before sowing them; sow them in peat and sandy loam, in a pot well drained, the soil being watered previously and allowed to become dry merely on the surface. Cover slightly with the same soil, press gently, then cover the pot with a square of glass, and a piece of paper to keep out light and too much air, and set the pot in a shady place in a saucer with a little water kept at the bottom, which will so far prevent the soil becoming very dry. When the plants are up prick off, and ultimately pot separately, and attend as above to keeping the plants moist rather than dry. Treat Aralia Sieboldii much in the same way as respects the seed, but so much attention to moisture will not be required after the seedlings are potted-off. Just after sowing, a little bottom heat and sufficient moisture would bring on the seedlings quickly, and then they could be hardened off gradually to the temperature of the greenhouse and a sheltered place out of doors. Much was expected from the finer Aralias for out-door decoration, but the severe winters some years ago destroyed many of them. We looked recently for a noble specimen of Aralia japonica at Wrest Park, where it flourished in a sheltered corner for years; but it had succumbed, and near its old position there is now a fine plant of the Spiræa Lindleyana, also striking from its fine foliage and spikes of bloom, but far inferior to the graceful Aralia. If, by the above careful sowing, you raise seedlings, we would keep them the first winter in the greenhouse, but try some of them in sheltered places and close to a wall the following summer, giving them some heath mould and leaf mould, along with good loam, at first, and a mulching of half-rotten dung afterwards, the mulching having a different effect from incorporating such rich manure among the roots.

Gentiana veena Culture (*Idem*).—With this beautiful edging plant, only not so good as the upright-flowering, beautiful Gentiana acaulis, much depends on sowing the seed at once when ripe. Keep the seed wrapped up during the autumn and winter, and sow it next spring either in a border or box; most likely, if the seedlings come up, you will have to wait twelve months before many of them make their appearance. We have kept the seed of Gentiana acaulis two years in a box before it vegetated. The best plan is to sow as soon as the seed is ripe, and keep in a cold pit the first winter. The plant is rather particular as to soil; it will not thrive in some places. We used it at one time for edgings, and there is no bedding plant to rival it for richness when it blooms profusely. A deep rather heavy loam suits it best. In planting-out, which we would do at once, we would after digging make the soil rather firm, and add to it a little rotten dung, leaf mould, or heath soil, the first being the best if the soil is not very tenacious. The plants, with their pretty blue-purple flowers, are seldom more than 3 or 4 inches in height. Your other question is answered in a previous column.

Insects (*A Lady in Cheshire*).—They are the larvæ of Lady-birds (Coccinellæ), which feed upon the aphides which infest the Calceolarias in great numbers.

Names of Plants.—(*A. S.*).—Anthericum Hookeri, also known as Chry-

sobactron Hookeri. (*Willey*)—1, Deutzia scabra; 2, Echium vulgare. (*Julia*).—Silene noctiflora. (*H. H. C.*).—1, an Iris, but quite rotten when it reached us; 2, Rudbeckia pinnata; 6, Salvia pratensis, var. rosea; 7, Veronica spicata;' 12, Silene noctiflora; 13, Phlomis fruticosa; the rest next week. (*John Hudspith*.—1, Polypodium vulgare; 2. Lastrea Filix-mas; 4, L. dilatata, the typical form; 3, a variety of L. dilatata.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 13th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 7	30.054	30.018	71	56	63	59	S.W.	.00	Densely overcast; cloudy but fine; clear and fine.
Thurs. 8	30.061	29.970	76	49	63	59	S.	.00	Overcast, fine; cloudy; clear and fine at night.
Fri.... 9	30.222	30.172	75	38	64	59	W.	.00	Very fine; cloudy but fine; cloudy, cold air.
Sat.... 10	30.314	30.222	79	42	64	59	W.	.00	Very fine; clear and fine; fine but cloudy.
Sun... 11	30.254	30.165	81	44	65	60	S.E.	.00	Fine and clear; very fine; fine; slightly overcast.
Mon.. 12	30.062	29.988	89	55	65	60	S.	.18	Very fine; fine, very hot; cloudy but fine, rain.
Tues.. 13	30.169	30.106	73	42	64	61	N.E.	.00	Showery; cloudy; densely overcast; cold wind.
Mean..	30.162	30.091	77.71	46.57	64.00	59.57	...	0.18	

POULTRY, BEE, AND PIGEON CHRONICLE.

FEATHER-EATING FOWLS.

The weather has much to answer for. The Englishman has always reserved to himself the right of grumbling at his fellow creatures, their manners and customs, their clothing and diet, and their means of locomotion. The travelling Englishman invariably not only mutters, but makes exclamations both loud and deep, against a portion of the animal life of the countries through which he passes, and against which his grievance is, that it is neither lodged nor fed by paternal governments, and, consequently, he finds frequent descents made under cover of the night on himself in his own room. This year it seems that one of the plagues has descended broadcast on our fowls. From fanciers of all varieties come the queries—What am I to do? My fowls eat the plumage, the one of the other! All kinds of advice are propounded; direful are the remedies resorted to; negative is the result! Birds of price, from this fell appetite, take the appearance of scarecrows. The loss to those amateurs who are negative dealers is serious, as it is now that they want to sell the adults to make way for the chickens. In our own and in the columns of other journals will be found letters from despairing amateurs, who found that day after day their birds were losing plumage to an extent that induced them to write, under initials and assumed names, letters which delicately described the bare state of their favourites. We believe that two out of three attribute the loss of the feathers to internal fever consequent on the breeding season, east winds, unnatural state of confinement, &c.

Does it ever strike one, how much more is in the present day required of a hen than was formerly? Without going so far back as Tusser and Chaucer, we may in many a standard work find the performance of that hen extolled, who, when she had reared her own brood, quietly by moulting prepared herself for the duties of another season. We had almost written session, for the members of parliament now escape from the nightly session at Westminster, and find repose in addressing explanations and apologies to every little town which furnishes a few votes. So the poor hen. She must lay early. She does so, but then just as she would be going into nursery quarters, and is anxious to sit and rear her first brood, she is reviled because "she has only laid us a dozen or so of eggs, and now wants to sit." He who christened the Pencilled Hamburghs "every-day layers" has much to answer for, because it seems that of later introductions so much more is expected that two eggs per bird per diem should be the average.

The unnatural appetite that has during the present season caused so much trouble and annoyance may, we think, principally be attributed to artificial feeding. Where the food is of a highly seasoned nature, it gives to the fowl a craving unknown to the bird previously, and induces it to peck at everything, in the hope of finding the flavour repeated. The immature feather seems a specially dainty morsel, and the thanks of the poultry world will be due to him who can devise a cure for an appetite so unnatural and so mischievous.

MUTILATION OF FOWLS.

I sent my two best pens of Game Bantams to the Ipswich Show, held on the 1st and 2nd inst., and on the latter day received a note from that town requesting me to telegraph the lowest price of either pen. I replied by letter that they were not for sale, and were under engagements for two other shows. They returned on the 4th inst., at noon, and the best cock had both his sickle-feathers pulled out and laid in the bottom of the hamper, evidently done intentionally to destroy my chance of winning in future. It could not have been done accidentally in the hamper, as it was a good one, well lined throughout, and the bird is not likely to moult for a month or two.

Your readers may form their own conclusions, and I doubt not most of them will agree with me that the offender deserves severe punishment. I am instituting inquiries, and if I can prove my case will not spare expense in bringing the individual to justice.—W. F. Entwisle.

OUNDLE POULTRY SHOW.

The first meeting of this Society took place on the 9th inst., and upon the whole the collection, both of poultry and Pigeons, was unusually good. A very excellent tent, provided with Messrs. Turner's well-known pens, gave excellent accommodation to the competing specimens, but it was noticeable that there was not the usual provision of well-practised hands to pen the birds on their arrival, nor was there any published catalogue, consequently we are unable to give any list of prizes.

Grey *Dorkings* and *Spanish* fowls formed very strong classes, and many of the *Cochins* were also excellent. The silver cup for the best pen of poultry exhibited, was taken by a superb Partridge-coloured cock belonging to Mr. Stephens, of Walsall. Some excellent *Crève-Cœurs* were shown, and well-grown Rouen *Ducklings*. The day was delightful, and the attendance of visitors far exceeded the expectations of the Committee.

Edward Hewitt, Esq., of Sparkbrook, near Birmingham, officiated as Judge.

BEES NOT WORKING.

A stock in a Woodbury bar-frame hive gave me last year a super of about 30 lbs. This season the bees appear far from so active as their neighbours; they have as yet only stored 16 lbs. of honey in their stock box; no super has been given them, and I have seen them bring out many bees in all stages of partial development. A few days ago I saw some drones flying in and out. It is a swarm of 1867. The cover of the hive is formed of an adapting-board, and over that another board not fastened down. To the adapting-board would be attached particles of wax, which I thought would keep the two boards a little apart, and thus ventilate the box; but it is possible I may have kept them too cold, and chilled the brood. What would you advise me do?—J. H. L.

[You may possibly have kept the hive too cool, and have thus chilled the brood, or the bees may have extruded it under the influence of impending starvation induced by the recent unfavourable weather. The obvious course is to lift out the frames and ascertain the state of the colony by actual inspection.]

DISLODGING BEES FROM A TREE.

I think your correspondent, "Old Tree Stump," before cutting his tree to pieces, might try (I cannot promise him success, though I wish I could help in the operation), the effect of smoke; but in such a case, ordinary rag or tobacco smoke would probably be of no avail. Bees dislike wormwood above

everything. If, therefore, he stop up the entrance to the upper hive, and then blow wormwood smoke in at the bottom of the tree stump, he will very likely find that the bees will ascend, and, if he is lucky, the queen will be amongst those entering the straw hive. He may, perhaps, expedite matters by boring a hole about a foot above the entrance, when the bees have ascended some distance, and so follow them up, taking care to keep in the rear. At best he will find it a long and troublesome operation, and, perhaps, it may not be successful after all; but, at least, if he then destroy the tree stump, he will have got rid of a good number of bees, for some are sure to ascend, which will be as well for him, as the operation will not make them good-tempered.

If he secure his bees in a hive, he must not move them away now, unless he first send them for a fortnight two miles off, or they will almost all return to look for the tree stump. He might block up the entrance to the stump, and, cutting it down to about a foot, leave the hive there till, say October, otherwise, as I mentioned before, move them two miles off. He must also not forget that it is now too late this season for the bees to gather their winter supply, so he must give it them. —Henry de Romestin.

FAILURES IN BEE-KEEPING—SWARMING versus SUPERING.

To reply to "A Kent Bee-keeper" satisfactorily, one ought to know much more about the locality, its honey harvest, &c., than is possible for any stranger. I should say that his residence must be exceedingly unfavourable for bee-keeping. One fact seems plain—viz., that the harvest is seldom good enough to allow him to share in it, in which case, probably, supering would be dangerous, unless in exceptional seasons; and as regards swarming, it seems as though he should turn all his endeavours to the attainment of early swarms, or none at all. This sounds comfortless advice; but there are places, happily but few, where bees never will furnish much more than amusement. Has "A Kent Bee-keeper" tried different positions for his bees? For there are sometimes subtle influences at work which we hardly perceive, and which decimate bees very quickly. For instance, a draught of air, not suspected till its consequences were seen, has been known to destroy all the hopes centred in a stand of bees.

First swarms, as a rule, have an old queen, all others a young one. The fact of the old queen going with the swarm, of course makes a break in the breeding, but not sufficient to injure a good hive. Later swarms, however, often do great mischief.

Lastly, as regards obtaining a succession of young queens, it can only be done with certainty in a hive with moveable frames, except by stupefying or driving.—Henry de Romestin.

STARLINGS WHITE.

I have caught in my garden, in Warwickshire, two young Starlings quite white. The parents, which are feeding them in the cage where I have put them, are of the usual colour. Is it not an unusual circumstance for these birds to be white? I cannot hear of any like them having been seen before. One of them has, I am sorry to say, met with an accidental death, and I have sent it to be stuffed. The other seems well. I should be glad of some hints about the proper food for it after the old birds forsake it.—Ornithologist.

[It is a very unusual circumstance, we know only of one instance of the kind. For food, give meat (raw beef is best) cut in small pieces, bread soaked in water, small worms, and occasionally hard-boiled egg chopped up, &c.—Eds.]

OUR LETTER BOX.

Books.—The Poultry-keepers' Manual which you can have free by post from our office for 7*s.* 10*d*; and "Bee-keeping for the Many," price 4*d*, or free by post, 5*d*.

Houdans Plucking Each Other (*E.*).—Are your fowls in confinement? If they are, the plumage is being eaten by themselves. You will be fortunate if the practice is in its infancy, and you can check it by removing the offender. We should consign him or her to the stock-pot. The fowls might give it up for a time, but we believe they would take to it again. "*On revient toujours à ses premiers amours.*" We believe, however disposed they may seem to behave well, their conversion would be like that of a New Zealander, "temporary, very temporary." We have one pen of Houdans almost guiltless of feathers. They are epicures; and as one animal wishing another to nibble at some particular spot bites that spot on his friend, so a Houdan hen will take stock of her companion, and finding a promising young feather on the back, she goes at it with a rush, and, having swallowed it, puts herself in position that her friend may do the same for her.

Black Spanish Hen's Crop Distended (*T. M.*).—We do not like your feeding. Shut the hen up; feed on oatmeal mixed stiff—very little at a time. Feed her often. Let her have a small quantity of water three times per day. She must have none by her. Discontinue sharps, bran, and Indian meal; they blow the crop out. If you follow this plan, her crop will assume its usual appearance in a few days.

Indian Game Fowls (*Moro*).—The scaliness of the legs is not infectious, but we believe it incurable. Kill him. It was first introduced into this country by the Cochins. We only know the Gallus giganteus by name. The heaviest pure Jungle Fowl we ever saw weighed 5 lbs. We have seen Malay fowls that weighed from 10 lbs. to 12 lbs. each. They were not so handsome as the Jungle; we do not think any gallinaceous bird can compare with it.

Black East Indian Ducks (*Helen*).—These are sometimes called the Buenos Ayrean, and even the Labrador, and are black, with a green metallic lustre on the feathers; any brown or white feathers disqualify; even the drake rarely attains to a weight of 5 lbs., and the Duck is 1 lb. less. They often pair, and so does the Musk Duck, and this accounts for the complaint of unfertile eggs when two or more Ducks are placed with a single drake. The eggs are often smeared over with a slaty-coloured matter, but the egg-shell is really a dull white; they are thin-shelled, and weigh about 2 ozs.

Preparing Feathers (*Housewife and Housewife*). — "Whenever any poultry is to be plucked let the pinion and other large feathers be separated from those of the body; these latter are to be picked carefully, that no flesh or skin may adhere to the roots of them, and are to be put into the appropriate bag, after which the large ones are to be stripped from the quills and added to them. On the day following that on which the bread oven may have been used let the bag of feathers be placed in it to dry, and kept there, always excepting, of course, when the oven may be wanted. The bag is to be occasionally hung out in the air on a fine windy day, and beaten with a stick. As soon as there appears to be a sufficient quantity of feathers for a pillow purchase some ticking, and, having had the case stitched round on the wrong side with double 'whity brown' thread well waxed, lay it on a table, and having procured some common yellow bees' wax (yellow soap will, however, be preferable), warm the wax, and rub it all over the ticking on the wrong side, in order to prevent the dust and down of the feathers from coming through the fabric. If neither pillows nor bolsters should be required the feathers can be put into a bed that may have become too empty. The Geese and Duck feathers should be reserved for the best beds, and the 'cock and hen,' as they are styled, are only fit for those that are inferior. It sometimes unfortunately happens that feathers while in the bag contract a taint and putrid scent; this proceeds from carelessness in plucking the poultry, whereby small portions of the flesh or skin are torn off, and adhere to the roots of the quills. To remedy this unpleasant circumstance, and entirely restore them to sweetness, let a copper of water be heated, or to save trouble, make use of the soap water in which the clothes of a family wash have been boiled, and while the copper is boiling dip the bag of feathers, tied tightly at the neck, into it; move them about with the clothes' stick to wash them thoroughly for about a minute; then withdraw the bag, squeeze it against the side by means of the stick in order to express the greater part of the water, and hang the bag in the air, turning and shaking it several times in the course of a few days. When the feathers feel dry and light, and are free from scent, they may be returned again to the oven, and kept aired for use."—(*Household Encyclopædia.*)

Selling Honey (*A Subscriber*).—You had better apply to Messrs. Neighbour & Sons, 127, High Holborn, or Messrs. Fortnum & Mason, of Piccadilly.

Piping before the Issue of a Prime Swarm (*West Suffolk Bee-keeper*).—Mr. Taylor seems not to have known that the old queen sometimes falls a victim either to an assault by a juvenile rival, or a regicidal attack from her own subjects, in which case "piping" may well precede the issue of a prime swarm.

Dark Matter in Comb (*J. W. P.*).—The dark matter in the cells of the bit of comb sent by you is newly-gathered pollen, such as is to be found abundantly in every prosperous hive.

Uniting Bees (*A Two-year-old Subscriber*).—Hive the cast in an empty skep in the usual manner, and as soon as they are quiet, stand the hive containing the bees to which you intend uniting them on a cloth spread on the ground, raising one side an inch or two by means of a stone or block of wood; then dash out the cluster of bees on the cloth close to the raised side of the hive, into which they will speedily run, and which should be restored to its place as soon as they have done so. You seem to have done all that is possible to induce your bees to enter the straw super. The middle of a fine day is the most favourable time for an examination. Bees are best united in autumn by being driven into the same empty hive, and afterwards transferred to the furnished habitation, which they are intended permanently to occupy.

Bees Turbid (*An Old Subscriber*).—Although we hardly profess to give practical answers to such questions, we have submitted your case to a friend well versed in what is called home brewing, and he writes us as follows:—"The present spring has been very prolific in thick beer; some entire brewings have refused to become clear, while in many instances a cask or two have remained so, and the others became bright. It is difficult to account for such a state of things, but it would appear that the external air must in some way have had greater access to the contents of the casks that are turbid, than to the others, and kept them in that condition of muddiness in which they left the vat. In general such beer will come round of itself without much loss of quality, provided acetous fermentation has not set in: but if it has, I know of no better way than drawing it off, adding some boiled sugar, returning it to the cask, and in a week or so putting in some finings, when it may be drunk off quickly, but will then not be so good as the beer which turned out well at first. If, however, only vinous fermentation be going on, the beer will come all right; but after a lapse of three months or more acetous fermentation has probably taken place, and I know of no better remedy than the above. The cause of the difference appears to be a sort of mucilage left in at the brewing, and which is difficult to remove."

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 22—28, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
							m. h.	m. h.	m. h.	m. h.		m. s.	
22	Th		74.1	51.2	62.7	24	10 af 4	2 af 8	21 af 7	57 af 2	13	6 9	203
23	F	[Show closes.	73.9	51.5	62.7	21	11 4	0 8	4 8	53 3	○	6 10	204
24	S	Royal Horticultural Society's Manchester	72.6	51.7	62.1	14	12 4	58 7	38 8	55 4	15	6 12	205
25	Sun	9 SUNDAY AFTER TRINITY.	73.8	49.2	61.5	13	14 4	56 7	6 9	58 4	16	6 13	206
26	M		73.5	50.2	61.8	21	15 4	54 7	30 9	3 7	17	6 13	207
27	Tu	Buckingham Horticultural Society's Show.	74.6	50 5	62.5	19	17 4	53 7	52 9	9 8	18	6 12	208
28	W		76.1	50.8	63.5	20	19 4	51 7	12 10	14 9	19	6 11	209

From observations taken near London during the last forty-two years, the average day temperature of the week is 74.1°; and its night temperature 50.7°. The greatest heat was 92°, on the 25th, 1844; and the lowest cold 32°, on the 23rd, 1863. The greatest fall of rain was 1.48 inch.

ASPECTS OF SPRING GARDENING.—No. 4.

FOR my fourth and last aspect of spring gardening, I desire to take your readers to the picturesque grounds of Nuneham Park, near Abingdon, the seat of the Rev. W. Vernon Harcourt.

There is one very pleasant feature about the flower garden here—namely, that it is broken up into four distinct sections, each of which is for all practical purposes perfect in itself. The visitor comes upon one of these gardens, and is able to grasp its details without experiencing that uncomfortable sensation of weariness large gardens often produce. Then some woodland or pleasant line of shrubbery, and bits of greensward and specimen trees most agreeably vary the monotony of the flower beds, and another garden is reached, till the whole are gone through. Those at the outskirts of the extensive grounds, and lying away from them on the altitude of the upland on the one side, or forming a kind of natural barrier to the beautiful vistas gained along the expanse of the lowland on the other, are grand woodland glimpses standing out in bold relief against the sky, or, on the other hand, in the line of the horizon on the lower ground. There are here no mountains to form what that marvellous word-painter Ruskin terms "the beginning and the end of all natural scenery;" "the natural cathedrals of the earth, with their natural altars overlaid with gold;" but one can yet look here with happy admiration at the lowland flowers and woods and open skies, filling the mind with intense delight, "because the shadow of the hope of the hills is in them." A peace and repose dwells here that belongs to the hills also, and the inferior landscape that leads to them.

Nestling within the line of the friendly shelter of a circle of trees and tall shrubs is the Rosery, a circular garden with a broad border of Roses next the shrubbery, then a broad walk, then a circular belt of small flower beds, and within this the Rose garden. It is the "circular belt of small flower beds" that furnishes the series of the illustrations it is the purpose of this paper to pourtray. Mr. Stewart, the gardener at Nuneham Park, has now become a spring gardener of some repute, and every season some touch of originality diversifies what had been the arrangement of previous years. Some beds filled with Polyanthuses and fine yellow Cowslips were charming; the dark colours of the former were a good contrast to the latter, and how sweetly the landscape seemed to recall

> "The southern-English scene—
> The Violet-scented hedgerows,
> The meadows' emerald sheen."

Other beds of these simple elements had mingling with them plants of the pretty lilac and white Collinsia bicolor. There were also pretty circles and squares of the white and blue Myosotis sylvatica, alternating with the red Silene and the white Arabis albida. In this garden Mr. Stewart had tried Nemophila atomaria oculata as a spring bedding plant; it has pale blue flowers, with a dark centre, but it proved too tender; perhaps the wet winter and cold spring had seriously affected it. One plant in this portion of the spring garden was particularly effective—the charming pale lilac pink Phlox frondosa; this is always well done at Nuneham, and was as effective as ever on this occasion.

From the Rosery a *via media* of climbers trained over wire arches leads to Mason's garden, a delightful spot in which pleasant greensward abounds, and huge banks of Rhododendrons, and specimen Magnolias, and other stately trees vary the aspect, while but few flower beds are present. This delightful garden may be likened to a grand horticultural epic, written in trees, in flowers, in winding walks, shady arbours, and emerald turf. The spot, so retired and secluded, is so full of pleasantness, that one could not but recall the dear love for the common Daisies of the fields of the old British poet Chaucer, who had towards them such a deep regard that he would lie down among them, and talk to them in his quaint simplicity as if they were his own offspring. Here they peeped up from the greensward in multitudes, like reflected stars in the great azure firmament above. In this garden one circular raised bed was particularly striking. This bed was in four divisions, made by lines of stone in the form of a perpendicular coping running from the centre to the circumference: and it was edged with stone in the same way. The centre of the bed was occupied by a stone pedestal, surmounted by a vase, in which was a glorious plant of Dielytra spectabilis, and round the base of the pedestal was a broad ring of Cowslips. Two of the divisions of the bed were filled with the blue Forget-me-not, and two with the showy Limnanthes Douglasii. Another bed of a similar character had two compartments filled with the pink Silene pendula, one other compartment having Oxyura chrysanthemoides, the other blue Forget-me-not. To this bed there was a broad edging of Stachys lanata. Another diamond-shaped bed had a pillar of Roses in the centre, round this was the purple Honesty; in its turn edged with the white Forget-me-not. Another bed, having a pedestal and vase in the centre, had a ring of Alyssum saxatile round the pedestal, then a broad band of the pretty blue Campanula pentagonia, with a broad edging of the variegated Vinca elegantissima. In this garden is one bed that might be best described as forming on the one side the base of a Prince of Wales's Feather, with two narrow serpentine fang-like beds issuing from it on the other side. This was filled with a double line of Young's Blood Wallflower, a fine single dark variety, much used and commended by Mr. Stewart; and edged with Vinca elegantissima closely pegged-down. There were also two raised beds, in the form of huge stone basons, with pedestals in the centre surmounted by a vase filled with the Dielytra; round the pedestal of one was the pink Silene, edged with Collinsia bicolor; round the other the charming Myosotis dissitiflora, with a ring of the double white Saxifraga granulata next it, and edged with the pretty golden-tipped Stonecrop. These had been planted by Mr. Stewart for trial, and it scarcely needs to be stated that all these will be largely used by him in the future.

On the right-hand of this garden, as the visitor proceeds

from the rosery in the direction of the mansion, is the site of the old orangery within a low stone balustrading; now a cosy arbour, with trellises on either side extending some distance either way, and covered with Wistaria sinensis, Magnolia grandiflora, Clematises, Roses, &c. In front of this trellis-work stood a fine row of Humea elegans, and in front of these large specimen scarlet Pelargoniums, &c., a grand bank of colour. The level of the terrace on which is the orangery is some 2½ feet above the level of the greensward. On the terrace is a small but very neat geometrical garden, the outline of which is worked in Box-edging, and forms a chain border. The groundwork of the chain was formed of Viola cornuta, then in the full flush of its beauty; the centre of each link of the chain being planted with Hyacinths, mingled with Collinsia bicolor. The angles formed at the juncture of the links of the chain, were filled up with the blue Venus' Looking-glass. On either side of the chain pattern was a narrow marginal border filled alternately with patches of London Pride, mingled with Calandrina speciosa and Leptosiphon densiflorus.

Close by, and under the weeping shade of a magnificent lofty specimen of Abies pendula, is a raised tablet inscribed to the memory of the Rev. John Mason, the designer of this part of the beautiful grounds at Nuneham, and which intimates that "George Simon, Earl Harcourt, consecrates this cenotaph to the memory of his friend." Round here were to be seen huge specimen Magnolias in full bloom, the pale tints of M. conspicua alternating into the darker hues of M. Soulangeana, while splendid bushes of Persian Lilacs, Berberis aquifolium, and other ornamental plants lent their aid towards the general contribution of beauty to be seen at this delightful spot.—Via.

(To be continued.)

THE LOSS OF THE PEACH CROP OF 1869.

The failure of the Peach crop of the present season is in every way remarkable, and not only remarkable, but it is also quite unprecedented. There have been seasons in particular districts in which the crop has been equally deficient, but then the loss has been occasioned through some particular agency, and the cause could be satisfactorily accounted for. We know by experience what it is to lose a crop of fruit owing to spring frosts, or even the trees themselves from frost in winter. We have also experienced deficient crops through the paucity of bloom, caused through the badly-ripened wood, on account of some neglect on our own part, or the unpropitious character of the preceding season. This season, however, is different in its causes to all former ones. It is also more general than has ever been known within memory. Throughout the whole of the United Kingdom, with very few exceptions, likewise in France, even at Montreuil, where it may be said to be all Peaches, and in Germany, Switzerland, &c.—indeed, from almost all quarters the reports sent to me tell the same sad tale—"Our late Peach crop is almost a total failure." It is a failure on all trees on the open walls, protected and unprotected. It is a failure in orchard houses, in all unheated houses. It is a failure wherever the trees, at the time of blooming and the setting of the fruit, had not the advantage of a little more heat and encouragement than was afforded in the natural state of the atmosphere.

Such, then, is the general report of the state of the Peach (in which are included the Nectarine and Apricot) crop this season. Whence the exceptions? The reports sent to me are again almost unanimous—"We have abundance of fruit in all our early houses, fruit finer, too, than usual." The Peach crop in all early houses—in all houses which have had the assistance of artificial heat during the flowering and the setting period, is everywhere excellent. I hear of no failures with trees in heated houses, excepting through sheer mismanagement. I hear of but just a few successes, of a few fair crops where artificial heat has not been provided. Mr. Saul reports that at Stourton, in Yorkshire, the crop taken altogether is a good one, and this from trees on the open walls, which had been carefully protected at night and during the times they were in flower. Mr. Kingsley, of Thirsk, also reports a good crop, but whether on trees on the open walls, or in the orchard houses, I am not certain. I hear also of a crop in Ayrshire, and, lastly, a most magnificent crop on trees in pots in an unheated orchard house at Scone Palace, Perth.

Naturally all those who have succeeded in procuring a crop, attribute the success to their own superior management, and I will not be uncharitable enough to consider it otherwise. Doubtless, considerable credit is due in some instances, but it is scarcely fair to suppose that this almost universal failure has been the result of mismanagement. I shall be slow to believe, that at Montreuil such has been the case, or that the fine old Peach trees, which are under the management of our best gardeners, have been neglected. Are we to imagine that in the case of orchard-houses, such skilful practioners as Messrs. Rivers, Pearson, Wilson, &c., have lost their crops of fruit, as they all confess to having done, through mismanagement and neglect? Scarcely so. No! the loss has been occasioned through causes beyond the control of the cultivator, at least with the means he had at his hand for prevention.

But let us inquire a little more closely. The only success of note with trees on the open walls is that of Mr. Saul's; and it is attributed by him partly to the protection afforded the trees, and partly to the splendid healthy condition of the trees themselves, and the fine wood formed during the previous summer. This conclusion is arrived at from the fact of the trees on which their crops are produced having suffered severely from the drought of last summer. There are others who advance the same opinion as to the cause—viz., that it is owing to the extraordinary heat of last summer, which in many cases proved very injurious to the trees. This may, indeed, account for some isolated cases, but I am not prepared to admit it as generally applicable. The failure is far too general to admit of this explanation. In the case of trees under my own immediate charge, as well as those in many other gardens, I never recollect seeing the wood in finer condition, or the buds more plump and promising than they were at the end of last year, which in my opinion was one of the best seasons for Peach trees ever known in this country.

Neither am I inclined, like your able correspondent, Mr. Bréhaut (see page 37), to attribute the cause of this season's shortcomings to "excessive cropping." I am well aware of the evil effects of overcropping, and its weakening influences on the future condition of the tree. With pot trees in orchard houses, it, no doubt, frequently happens that the trees are overcropped, and are, therefore, made to perform their functions the following season; but the simple question is this, Were all or any of the trees which are this season destitute of fruits, overcropped last season? I venture to say very few, at least not sufficient to establish the rule. It is not only trees in pots, or trees in orchard-houses, but trees everywhere, whose blooming, &c., took place at a certain period of the year, and which were not assisted by artificial heat. I think Mr. Bréhant is going too far, notwithstanding his great experience, in assuming that "by carefully regulating the crop on each tree, we can, no matter what the season is, secure a good crop." I approve of Mr. Bréhaut's practice, and congratulate him on his success, which is so much greater than my own and that of many others. But I feel "kind o' jealons." I have some hundreds of trees in and out of pots in orchard houses, and on the open walls. Trees, too, which were not overcropped last year, and which never before failed to produce a crop, but are this season barren. It is altogether a mistake to say, that "by regulating the crop on the trees every year according to their powers of bearing, &c., that they thus acquire a steady habit of production, and are independent of atmospheric changes."

The loss of the crop of this season is distinctly due to atmospheric action—to, as stated by Mr. Pearson (page 421), "a total absence of sun and a cold, damp atmosphere whilst the trees were in bloom. The pollen was like paste, and the blooms were unfertilised. A little artificial heat to dry the air would have saved the crop." Such, then, is the opinion of one of the most successful orchard-house cultivators of the time; but what has Mr. Rivers, the inventor of orchard houses, and the greatest Peach cultivator and experimentalist of this country, to say on the subject? Mr. Rivers states that "the blossoms in March required more warmth and dryness than they had under common circumstances;" and to show that the lack of heat had much to do with it, the following examples are given:—"Early in January forty trees in 10-inch pots were selected from the common lot and placed in a gentle forcing house. These all set well, and produced splendid crops of fruit, whilst those of the same age, in the same sized pots, left in the unheated house, dropped all their fruit." Further, some tall standard trees in the centre of one of the houses, at the greatest distance from the ventilators, are pretty well cropped, while all the others in the same house, as well as everywhere else in the nursery, have entirely failed. And, again, Mr. Stevens, of Trentham, writes, "No Peaches in our

cold houses. Abundance of Apricots; but our trees are trained upon cow houses, &c., so the walls are, consequently, very warm."

Thus, then, we have evidence showing that in almost every case when heat was applied, success has been the result; and in almost every case where heat has been wanting, failure has ensued; and that the cause of the failure is due to the uncongenial nature of the spring, not to any overcropping, or the influence of the past season.

The only single instance of success this season in an unheated house, is that of Mr. Halliday, at Scone Palace, Perth. Last season these trees were splendid specimens of culture, heavily laden with fruit. This season they are again abundantly laden, and Mr. Halliday attributes his success to keeping the house as close and warm as possible during the flowering and setting period. Mr. Halliday ventilates his house only at the top, and the climate of Scotland being colder than our own, some such precaution is necessary. Perhaps a little less ventilation on our part, if we could have dissipated the damp, would have saved our crop.

Peaches, &c., bloomed unusually early this season, and the blooms were as fine as usual, and fully more abundant. The trees remained in blossom a long time, much longer than usual, which of itself was a sign of imperfect setting. They, however, set partially, attained the size of small beans, and then dropped. The trees throughout this long blossoming period had their energies severely taxed, yet on trees where the blossoms were thinned to a minimum, the same result occurred. The whole period during the blooming and setting was cold, damp, and in every way wretched, about the worst that could possibly have been experienced. There was, however, no frost sufficient to do any injury. Better there had been. The Peach will stand 8° or 10° of dry frost better when in flower than stagnant moist air. In April the weather from excessive cold, became suddenly unusually warm for the season, and it was then the fruit fell. The excitement was too great after their long season of lethargy. To this the loss is to be attributed; for it is a well-known fact to all gardeners, that a sure way to lose a crop of Peaches is suddenly to raise the temperature of the house from a low to a high degree.

What lessons, now, are we to learn from the experiences of the present season? or what precautions shall we take to avoid a similar loss in the future? Mr. Pearson counsels "humility"—that is, contentment, or an inward conviction that we have done our best under the circumstances; but, further, he advises "those who can afford it to put pipes in their houses, and so make safe for the future." Pipes are, undoubtedly, of great assistance, but they are also of great expense, and not within the reach of many of those for whom the orchard house is intended. It is also doing away with the true principle of orchard houses, and making them an expensive luxury instead of a cheap enjoyment. Seeing that it is the "first time," as Mr. Rivers says, "since their invention that orchard houses have failed," but, on the contrary, have continuously produced good fruit, I cannot fall in with the clamour against them, or on the spur of the experiences of a single season recommend the additional expense of heating. By another season the tables will be turned, and Peaches be everywhere abundant. So before spending your money, wait a little longer.—Archambaud.

STRAWBERRIES—AND FOR A LIGHT SOIL.

My Strawberry party was held July 16th. Eleven dishes of very fine fruit were set before the company. Fifteen Cockscombs weighed 1 lb. The heat was intense; had they been weighed in the morning, twelve would have weighed 1 lb. The largest (Cockscomb) measured 9 inches round. The sorts used were Frogmore Late Pine, Dr. Hogg, Mr. Radclyffe, Eliza, and Cockscomb. I never saw eleven dishes of such fine Strawberries. The company were astonished, as few people have any at all. I keep on two waterers constantly for Roses and Strawberries, that with manure is the reason of my success, and the size of the fruit. Dr. Hogg and Mr. Radclyffe did not set all their blossoms, but Eliza, Cockscomb, and Lucas set every one. The Alpines, of which Galande, is by far the best, set every blossom. Mr. Peglar, who sends a query, has a light dry soil overlying gravel and chalk; such a soil is not suited to the growth of Strawberries; but if the surface be heavily mulched with rich manure, and the watering pot kept going from the time the berries set till they begin to colour, great crops may be grown. Such was my Rushton land. After the fruit-picking is over, thoroughly drench the land. My opinion of Lucas and Prince Imperial, alias Marquis de la Tour Manbourg is, that Lucas is in all respects a first-rate and splendid Strawberry when fully ripe. The Marquis is a handsome plant, with leaves like one of the Laurustinus family, it is a good bearer, handsome, and pleasant. As Mr. Peglar wishes large and profitable Strawberries, I am inclined to recommend for his soil, Sir Joseph Paxton, Cockscomb, Dr. Hogg (to represent the Queen), Lucas, Trollope's Victoria, Alice Maude, and Empress Eugénie. Such a soil, unless a great quantity of water is used, is too dry for Frogmore Pine, Wonderful, and some other good sorts. People who do not water copiously, obtain one or two large berries, and the rest come to nothing. It is not the fault of the Strawberry. My runners were planted July 1st, 1869. Early establishment is of great moment in this country.—W. F. Radclyffe.

EARLY PEACHES.

In horticulture, as in agriculture, every change brought on by experimental culture, if it be an advance by only a short step in the way of improvement, is a source of real enjoyment to the cultivator. To make two blades of grass grow in a space which one under common culture would occupy, is a gift beyond calculation; to make two ears of Wheat grow over the whole Wheat-growing surface of England, without incurring a heavier outlay of capital than now invested, would entitle a man to a monument grander than any one of the pyramids of Egypt.

I have been led into this train of thought by the result—humble enough, of my experiments in raising a new race of early Peaches, so original in their nature as to make me hope that in a few years, by means of them and their offspring, a revolution will be made in the forcing of Peaches, or at least a great reduction in the expense of producing them. I ought to premise, that in describing these new and interesting varieties, I have been tempted to it by reading Mr. Bréhaut's notice of some of them in your last number, and not with any wish to advertise them indirectly, for they are now in the hands of numerous cultivators, who can supply trees of them. I may as well here describe how I forced my Peaches this season—a very simple mode of culture, and well repaying by the great value of the fruit, the small expense, and little trouble the trees have given.

About the end of the first week in last January three dozen or so of trees two years old (one year in pots), were placed in a lean-to house 10 feet wide, and with two 4-inch hot-water pipes in front, heated by an Arnott-stove boiler (a small saddle boiler). They were in pots from 10 to 11 inches in diameter, and were placed in gentle heat just in the state they were in, without any surface or top-dressing. In the course of a few weeks, the temperature varying from 50° to 60° by day, they put forth abundance of blossoms; air was given freely during the day, and they set a great quantity of fruit. This was gradually thinned down, leaving at the last thinning, when they were the size of walnuts, from six to ten on each tree. As soon as the leaves were developed, and the trees in a fit state to receive extra food, the surface mould was scraped off each pot to nearly 1 inch depth, and a surface-dressing of my usual compost, about 1 inch deep given. This compost, often described, is kiln dust from the malt houses here—a mixture of fine ashes and malt combs—and horse droppings from the roads; one-third of the former, and two-thirds of the latter, mixed, and then saturated with strong liquid manure from a cesspool containing the drainings from cloacæ and the stable, too strong to be used as liquid manure, but most useful and safe when absorbed by the materials just mentioned. The trees were kept free from aphides, and in sunny weather were syringed in the morning. Under this management they showed fine health, and the fruit swelled gradually without dropping while stoning. On the 29th of May the Early Beatrice ripened its fruit, of a deep crimson, and the size of the Acton Scot, remarkably juicy and melting, refreshing, with a nice Peach flavour, but not rich. This curious creature was raised from a stone of my seedling White Nectarine. The flowers fertised with pollen from the Red Nutmeg Peach, the earliest of the old sorts of Peaches, but not larger than a small walnut. Simultaneously with Early Beatrice—I am not sure if it was not a day or two earlier—the Early Louise Peach ripened a nice crop of fruit. These were as large as a medium-sized Royal George Peach (as these Peaches have as yet been grown only in pots, not large, it is to be expected that

their size will be increased), its colour a pale straw, with a light crimson cheek, very juicy and melting, with a most agreeable flavour. This Peach was raised from a stone of my Early Albert Peach, which was raised from an early Clingstone Peach, received from Belgium as Montagne Précoce, a sort now unknown on the Continent.

June 3rd.—Some fruit of my Early Rivers Peach ripened. Although the trees are in small pots, yet the fruit was of a fair size, say 7 to 8 inches in circumference, not 8½ inches in "diameter," as in your last number, a clerical error, probably of Mr. Bréhaut. A Peach 25½ inches in circumference would, indeed, be a wonder, reminding us of the old Spanish gentleman mentioned by Le Sage, I think, in Gil Blas; he contended that the Peach world was in a state of decadence, for in his youth the Peaches were as large as small pumpkins.

The Early Rivers Peach is correctly described in page 38 by Mr. Bréhaut. It originated from a stone of the Early Silver Peach, which was raised from the White Nectarine. The three Peaches above described are the earliest sorts known. The two former, from their bright colour, will be popular as market Peaches. The latter is, perhaps, too delicate in colour and in its flesh, which is more than melting—it is dissolving.

An American Peach cultivator, from New Jersey, was so much struck with the description of the Early Beatrice when it was sent out, that he made a voyage to this country for a supply of trees, which he returned with. He has now 20,000 trees of this sort in his orchards, and declares that if it will ripen a fortnight before the Early York, it will be a fortune to the grower. The single fault of the Early Rivers is to have imperfect stones. When this is the case the fruits split at the apex before they are quite ripe. As this probably arises from the flowers not being perfectly fertilised, it will be good practice to fertilise the flowers with the pollen of some free-bearing sort.

June 12th.—Rivers' Early York Peach ripe. This differs from its parent in having smooth glandular leaves, and never mildews. It ripens as nearly as possible at the same time as its parent, but its fruit are rounder, a little larger, and of a richer flavour. An American pomologist, who tasted it on his return from the Continent, declared it was the finest Peach he had ever tasted, either in Europe or America. Its fruit measured from 7 to 8 inches in circumference, the same as the Early Louise, and I may add, that on measuring some fruit of Early Beatrice, now (July 17th) ripe in my cold orchard house, the tree in a large pot, and in fine health, I find them 7½ inches in circumference, and Early Louise, also ripe and in a large pot, 8½ inches.

June 16th.—Early Leopold Peach ripe. A seedling from the Early York. Shape compressed (flattened), with a rather deep suture, skin pale straw colour, flesh melting and very rich. Size that of Early Louise.

June 22nd.—The Stanwick Early York Peach ripe. This was raised from the Early York crossed with the Stanwick. Its flavour very remarkable and most delicious, unlike that of any known Peach. Its colour crimson, and size equal to that of Early Louise.

June 22nd.—The Early Alfred Peach ripe. This was raised from Hunt's Tawney Nectarine. Its flavour is quite original, partaking of that of the Nectarine, and its abundant juice is most refreshing.

July 2nd.—The Early Grosse Mignonne Peach ripe. This has been for some years our best early Peach. It is really good, but its flesh has not the piquancy of the early seedling Peaches I have named; besides which, it is quite a laggard compared to them, for standing in the same house the trees of the same age, and in the same sized pots, it is fully a month later than the Early Beatrice and Early Louise; this is of great consequence in forcing.

July 8th.—The Grosse Mignonne Peach ripe.

July 10th.—Alexandra Noblesse Peach ripe. Fruit fine, 8½ inches in circumference, and its flavour most delicious.

I have noticed most particularly the ripening of the two latter, as they have hitherto been with the Royal George (which ripened with the Noblesse), our most popular forcing Peaches. All the Peaches I have noticed have been forced in the same house and in the same sized (10 to 11-inch) pots. I have been much struck this season with the small amount of trouble with which Peaches in pots may be forced, for when a youth I used to think that ripe Peaches in May and June required a sort of preternatural knowledge, and I then looked at a gardener who produced them with a sort of awe—as a sort of horticultural Jupiter.

I gathered from three dozen of my young trees, during the month of June only, from sixteen to eighteen dozen of early Peaches, and derived much pleasure from giving them to neighbours and friends when they were rare and dear in our great London garden. A Peach costing 5*s.* soon melts away, like money in the pocket of a spendthrift.—Thomas Rivers.

THE ROYAL HORTICULTURAL SOCIETY'S MANCHESTER SHOW.—July 19th to 24th.

The third provincial Show of this Society, in connection with the Royal Agricultural Society's great meeting, commenced at Old Trafford, on Monday last, and will close on Saturday, Notwithstanding the opening day being a Monday, rendering it difficult for distant exhibitors to show their various productions in the best condition, and at the same time conform to the rules, it is one of the largest, if not the largest, of the exhibitions which the Society has yet held. It is difficult to be precise on the point, writing as we do without the statistics of previous exhibitions at hand; but we shall be much surprised if the entries are not more numerous than at Leicester and Bury St. Edmunds. The Show, as a whole, is good, though there is considerable room for improvement in many of the classes; but distance deterred many from bringing large plants, the hot weather and the duration of the Show others from bringing smaller and more delicate specimens. Still, the classes are well filled, as will be seen by the following reports; and graced by the presence of several of the Royal Family, and held in so densely populated a district as Manchester and its environs, we cannot but believe that the results will not be less satisfactory than those which have attended the Society's previous country exhibitions. Though the site in which the Show is held is none of the smoothest, it has the advantage of being situated close to the Agricultural showyard; still, it is the opinion of most people that it would have been desirable to have held the Exhibition elsewhere if satisfactory arrangements could have been made. There are several subjects, such as the Congress, at which numerous papers are to be read, that we must postpone till next week.

Stove and Greenhouse Plants.—There are numerous groups of these, consisting of flowering plants only, of ornamental-foliaged plants only, and of the two mixed. The leading prizes for this class of plants were that of £25 offered by the Royal Horticultural Society, and the second prize of £15, offered by the Manchester Botanical and Horticultural Society for the best and most effective group of ten fine-foliaged and ten flowering plants. Mr. Baines, gardener to H. Micholls, Esq., Summerfield, Bowdon, Cheshire, takes the first position with a fine collection, though scarcely equal to those he has shown at the previous shows held in connection with the Royal Agricultural Society's exhibition. His collection contains an excellent Bougainvillea glabra; fine specimens of Ixora coccinea, Genetyllis tulipifera, Erica obbata, Dipladenia amabilis in beautiful condition, Erica Fairrieana, 4 feet in diameter, and in fine condition, a tolerably good Franciscea confertiflora, Croton angustifolium and variegatum, marvellous Sarracenias, a magnificent Alocasia metallica, Dicksonia antarctica, Cordyline indivisa, Theophrasta imperialis, a very fine Gleichenia speluncæ, and Dasylirion acrotrichum. Mr. W. E. Dixon, nurseryman, of Beverley, comes second, and has a fine Aphelexis macrantha purpurea, an excellent Bougainvillea glabra, Ixora alba, Yucca aloifolia variegata and Stokesii, Cattleya Leopoldi, and some other plants which do not contrast advantageously with those in the preceding collection. Mr. Baines also takes Mr. Bailey's prize for the most effective exhibition of plants.

Turning now to the general prize list, Class 48 is for collections of nine. In this the first prize was awarded to Mrs. E. Cole & Sons, Withington, near Manchester, who have an excellent specimen of Allamanda nobilis with large flowers, Kalosanthes Madame Celesto Winans, a very good Aphelexis macrantha purpurea, Genetyllis Hookeri, good specimens of Erica Parmentieriana rosea, and Erica tricolor Wilsoni. The second prize goes to Mr. J. Bolton, gardener to W. Worswick, Esq., Birstall Hall, Leicester, for Vinca alba, Clerodendron fallax, a Plumbago, Pentas carnea, Rhynchospermum jasminoides, Medinilla magnifica, Vinca oculata, Bougainvillea glabra, and Stephanotis floribunda. The third prize was awarded to Mr. W. E. Dixon, of Beverley. In his collection we noticed Roella ciliata and a pretty Erica Bothwelliana. In the next class—viz., that for six plants, Mr. J. Stevenson, gardener to J. Sichel, Esq., Timperley, is first with two good specimen Allamandas—viz., cathartica and Hendersoni, Ixora princeps, which, though small is a mass of bloom, two Heaths, and Dipladenia acuminata. Mr. Bolton, Birstall Hall, is second with Allamanda Hendersoni in good bloom, and Hoya carnosa, which does not make a good exhibition plant, unless as a large specimen it can be placed on a high stage, so as to be viewed from a lower level.

The special prize offered by H. L. Micholls, Esq., for three fine-foliaged and three flowering plants, the latter to include two Ixoras, was awarded to Mrs. Cole & Sons, Withington, Manchester, who

exhibit Ixora Colei, with fine compact heads of white flowers; Ixora coccinea, fine; a handsome specimen of Erica Paxtoni, Crotons variegatum and angustifolium, and the variegated Aloe-leaved Yucca. Mr. Baines, Mr. Micholl's gardener, also sends a collection, consisting of fine specimens of Erica tricolor Holfordi, Ixora coccinea and aurantiaca; and of ornamental-foliaged plants a good example of Alocasia Lowii, Dicksonia antarctica, and Rhopala corcovadense.

Prizes were offered by Julius Sichel, Esq., for flowering and fine-foliaged plants, four of each. Mr. Brierley, gardener to J. Kendal, Esq., High Bank, Cheadle, who is first, has Alocasia metallica, a very fine specimen of Allamanda Hendersoni, Croton angustifolium, Sanseviera javanica, and Bougainvillea glabra, all of which are good. Mr. Cardwell, gardener to F. Hobson, Esq., Pownall Hall, Wilmslow, is second, likewise with a good collection, in which are fine plants of Alocasia metallica and Yucca filamentosa variegata; also Aërides Dayi and Dipladenia amabilis. Messrs. Bell & Thorpe, of Stratford-on-Avon, exhibit in their collection a small but very good specimen of Cissus discolor.

The prizes offered by E. Brooke, Esq., and L. Haumer, Esq., are well contested, Mr. Brierley being here also first; Theophrasta imperialis, Cordyline indivisa, Erica Candolleana, and Bongainvillea glabra being noticeable in this collection. Mr. Stevenson, gardener to J. Sichel, Esq., comes second with a very good specimen of Alocasia Jenningsii, and a fine one of A. metallica, an excellent Erica Fairrieana, Sanchezia nobilis variegata, Dipladenia amabilis, Pleroma elegans, and other plants less noteworthy. The special prize offered by H. L. Micholle, Esq., for ten fine-foliaged plants, is also taken by Mr. J. Stevenson with Stevensonia grandifolia, Theophrasta imperialis, a splendid specimen of Alocasia metallica, 5 feet in diameter, the variegated New Zealand Flax Dicksonia antarctica, Latania borbonica, Croton variegatum, and a Bonapartea.

Special prizes offered by the City of Manchester for miscellaneous plants, also brought excellent collections of stove and greenhouse plants, though not limited to them. Mr. W. Cardwell is first with a fine specimen of Alocasia Lowii, and good examples of Theophrasta imperialis, Cyathea medullaris, Erica ampullacea major, Erica Fairrieana, Dipladenia amabilis, Allamanda cathartica, and Cordyline australis. Mr. W. E. Dixon, who is second, has a fine Gleichenia speluncæ, Phœnocoma prolifera Barnesii, well covered with flowers, which are small, Ixora amboynensis, a very good Croton angustifolium, Dicksonia antarctica, with a large trunk, Ixora alba, a fine Vanda suavis, but the two spikes few-flowered, a fine Erica Parmentieriana rosea, and a fine pan of Anæctochilus Lowii. Mr. J. Shaw, Bowdon and Manchester, is third with Allamanda Hendersoni, Roulinia pitcarnifolia, with graceful leaves, 4 feet long, a handsome specimen of Croton variegatum, Yucca gloriosa angustifolia in flower, Yucca quadricolor, Eurya latifolia variegata, Phormium tenax variegatum, and Dracæna lineata. This is a very neat and effective collection.

In the general class, nine fine-foliaged plants, Mr. J. Bolton, gardener to W. Worswick, Esq., Leicester, takes a first prize, with a collection, the most noticeable of which are Croton angustifolium, Cissus discolor, fine; Seaforthia elegans, Pandanus elegantissimus, Croton variegatum, Yucca variegata, and Selaginella cæsia arborea. In the nurserymen's class, Mr. B. S. Williams takes the lead with an excellent collection, in which there are beautiful specimens of Cordyline indivisa, Crotons pictum and variegatum, Pandanus ornatus, a large and remarkably fine specimen of Dasylirion acrotrichum, Theophrasta imperialis, Yucca aloifolia variegata, and Cycas revoluta. Messrs. Felton & Son, Edgbaston, come second, having among others a fine specimen of Verschaffeltia splendida, Sanchezia nobilis variegata, Cordyline indivisa, and Crotons. Mr. J. Shaw is third with an excellent Agave filifera, a handsome plant of Yucca aloifolia variegata, Pandanus ornatus, Theophrasta imperialis, and other good plants. Mr. W. E. Dixon is fourth. In the amateurs' class for six, Mr. G. Elkins, gardener to T. H. Birley, Esq., M.P., is first, and Mr. Philips, gardener to A. Heywood, Esq., second.

For the special prizes offered by the proprietors of the "Florist and Pomologist," for the best four softwooded greenhouse plants, only one collection is staged, that from Messrs. Bell & Thorpe, who send a poor Plumbago capensis, Lantana mutabilis, and two Achimenes, one of which, Miss Earle, is a well-flowered plant.

Orchids.—Of these there is a fine display, though the number of competitors is not so great as we expected in such a great centre of Orchid culture as Manchester. The special prizes offered by Mrs. Mendel and W. C. Jones, Esq., respectively, were awarded to Mr. Archer, gardener to A. Turner, Esq., Leicester, and Mr. Swan, gardener to T. Jones, Esq., Whalley Range. The former has Phalænopsis grandiflora with three fine spikes, Aërides odoratum and affine, both fine, Cattleya superba, Aërides virens superbum, Cypripedium superbiens with eleven flowers, Aërides Lobbi with three branching racemes, Odontoglossum Reichenheimii, and Cattleya Leopoldi. Mr. Swan has Odontoglossum cordatum, Saccolabium Holfordii, Miltonia spectabilis, Epidendrum prismatocarpum with three spikes, Epidendrum vitellinum majus with large flowers, and Odontoglossum Alexandræ. Mr. R. Hitchmough, gardener to W. Agnew, Esq., Penzance, who takes a third prize, has a remarkably fine Saccolabium Blumei. Special prizes were also offered by Messrs. J. Brooke & Co., and W. Southern, Esq., for the best collection of six. These were awarded to Mr. E. Mitchell, gardener to Dr. Ainsworth, Cliff Point, Broughton, and Mr. Swan; the former has Miltonia Regnelli purpurea with four spikes, Aërides quinquevulnerum, and others; the latter, Odontoglossum Alexandræ with two fine spikes, O. Bluntii, and Aërides. In the general class for a collection of six, Mr. J. Orme, gardener to W. C. Bird, Esq., Kersal Moor, takes the first prize. Mr. Swan, who is second, has Saccolabium Blumei majus, Cypripedium Dayanum with two fine flowers, Miltonia Regnelli purpurea, Cattleya Regnelli, Odontoglossum Lindleyanum, and Aërides Lobbi with a slender spike upwards of 18 inches long. Mr. E. Mitchell, gardener to Dr. Ainsworth, is third with Miltonia spectabilis, having eighteen fine flowers, Aërides quinquevulnerum, Cattleya Leopoldi, Vanda tricolor, Aërides roseum superbum, and Saccolabium Blumei majus. Mr. McMillan, gardener to — Gotteschalk, Esq., and Mr. Allen, The Grange, Didsbury, also exhibit in this class. In that for nurserymen, Mr. Williams, of Holloway, is first with beautiful examples of Barkeria spectabilis, Cypripedium superbum with thirteen fine flowers, Aërides odoratum majus, Saccolabium Blumei majus, and Cattleya superba beautiful in colour. Mr. W. E. Dixon, of Beverley, is second, and has a good mass of Cypripedium Veitchii, Saccolabium præmorsum, and Aërides.

Ferns and Lycopods.—For four Exotic Ferns special prizes were offered by Mrs. Samuel Taylor, Didsbury, and by Messrs. Barber. Mr. Cardwell, gardener to T. Hobson, Esq., is first with Leptopteri superba, Cyathea Smithii, Brainea insignis, and a fine Gleichenias Mr. W. E. Dixon is second with Trichomanes radicans, fine, Gleichenia Mendeli, Davallia tenuifolia stricta, and Cyathea dealbata. Messrs. Bell & Thorpe also exhibit in this class. For nine Exotic Ferns (nurserymen), Mr. B. S. Williams is first with a tall and beautiful specimen of Gleichenia speluncæ, Todea africana, Cibotium princeps, Cyathea dealbata, Dicksonia antarctica with a tall trunk, Adiantum trapeziforme of a beautiful green, Cibotium Schiedei, and a golden Gymnogramma. Messrs. G. & W. Yates, Sale, Manchester, are second with neat plants of Adiantum trapeziforme and Sanctæ-Catharinæ, Lomaria gibba, Pteris cretica albo-lineata, &c. Mr. T. Stafford, The Hyde, Manchester, is third with good though not large specimens of Cyathea medullaris, Alsophila australis, and small specimens of others, of which Adiantum formosum is a beautiful little plant. In the amateurs' class for the same number, the first prize goes to Mr. J. Bolton for good healthy specimens of the Bird's-nest Fern, Adiantum trapeziforme, Stenochlæna scandens, Cibotium princeps, Adiantum cuneatum, Lomaria gibba, Adiantum formosum, and Blechnum corcovadense. Mr. Baines, who is second, has a fine plant of Davallia bullata, a large Gleichenia flabellata, G. speluncæ, very pretty, and Todea superba. Mr. C. Phillips, gardener to A. H. Heywood, Esq., is third.

Special prizes were offered by Mr. H. Crowe and Messrs. Barker Brothers, for twenty British Ferns. The first of these was awarded E. J. Lowe, Esq., of Highfield House, Notts, who sends among them Polystichum angulare Wakeleyanum, Adiantum capillus-Veneris, Osmunda regalis cristata Lowei, Scolopendrium vulgare crispum latum, which is a pleasing bright green form; Athyrium F.f. Monkmannii, Scolopendrium vulgare magnificum, Adiantum capillus-Veneris kalon, Lastrea rigida, Athyrium F.f. longridgense, Lastrea F.-mas phylloidenm, Asplenium mariuum, Polystichum angulare nidum, Lastrea pseudo-mas nitida and cristata, Lastrea F.-mas variegata, edged with pale yellow, but rather sickly-looking, and Lastrea dilatata. J. E. Mapplebeck, Esq., is second with Athyrium F.f. plumosum, Polypodium cambricum, Allosorus crispus, &c.

In the general class for twelve British Ferns, Mr. Mapplebeck is first, Mr. Rylance second, and Messrs. Stansfield, of Todmorden, third. Mr. Mapplebeck has, among others, charming examples of Polypodium alpestre, Athyrium F.f. Elworthii, A. F.f. coronatum, Lastrea pseudo-mas cristata, Osmunda regalis cristata, Polystichum angulare proliferum, Cystopteris fragilis sempervirens, Scolopendrium vulgare stenomenon, and Hymenophyllum tunbridgense. The best pair of tree Ferns are Dicksonia antarctica, from Mr. B. S. Williams, standing at least 9 feet high; the second best come from Mr. Shaw, of Manchester, and are about 6 feet high.

The best six Lycopods are exhibited by Mr. R. Fleming, Waterloo, Liverpool, and are trained on wires forming handsome cones about 4 feet high, from the bottom of the pans. The best are Selaginella macrophylla, dichotoma, Schotti, lævigata, and stolonifera. Mr. G. Elkin, gardener to T. H. Birley, Esq., M.P., is second; Mr. Price, third; Mr. Rylance, fourth.

Palms.—These are not very numerously shown, nor are the specimens so stately as we have seen at previous shows. The Manchester Botanical and Horticultural Society's prizes went to Mr. A. Williams, gardener to G. Broome, Esq., Fallowfield; and the second to Mr. W. E. Dixon, Beverley. Among these are good specimens of Stevensonia grandifolia, Thrinax elegans, Latania borbonica, Geonoma, and Verschaffeltia splendida. Mr. Shaw is first for the best six, and Messrs. G. & W. Yates second.

Dracænas.—These are not numerously shown; the best come from Mr. B. S. Williams, and comprise fine plants of D. lineata, cannæfolia, Veitchii, umbraculifera, atrosanguinea, and australis. Mr. Shaw is second; Messrs. G. & W. Yates third.

Trees and Shrubs.—Of these there are several highly interesting collections, containing many remarkably fine specimens, especially of the rarer Conifers, Messrs. Barron & Son, of Borrowash, take the first prize for twenty hardy Conifers, offered by T. Ashton, Esq., with a collection such as few but Mr. Barron could produce. Sciadopitys

verticillata, 6 feet high, Biota elegantissima, a beautiful golden Arbor-Vitæ; Cryptomeria elegans, Retinospora pisifera, Cupressus Lawsoniana, 10 feet high, a fine Araucaria imbricata, Arthrotaxus laxifolia, very free in growth and fine; Retinospora obtusa, and Larix Kæmpferi are especially worthy of attention. Mr. Shaw, who is second, taking the prize offered by H. K. Belstone, Esq., has among others a fine Araucaria, Thujopsis dolabrata variegata, Cryptomeria elegans, Thuja japonica, Cedrus deodara variegata, Retinospora pisifera. The best six Hollies, for which special prizes were offered by the Proprietors of the *Manchester Guardian*, come from Messrs. Barron & Son, and include several fine varieties; the second best are exhibited by Mr. Kellett. The prize for the best ten deciduous trees, offered by the Proprietors of the *Manchester Courier*, is taken by Mr. J. Shaw. Mr. Grimshaw's prizes for the best pair of standard Hollies also go to Mr. Shaw for Ilex aquifolium aureum, 8 feet high. The best pair of Golden Yews come from Messrs. Barron & Son; the second best from Mr. J. Shaw. The special prize offered by B. Whitworth, Esq., for the best pair of standard Bay trees, is taken by Mr. Williams with plants having heads nearly 5 feet in diameter, and standing about 8 feet high; the second prize by Mr. W. McMillan. For pyramidal Box trees Mr. Stubbs's prizes are taken by Mr. Shaw with a pair of the Variegated 9 feet high, and Mr. Stafford with a pair 7 feet 6 inches high. Mr. Williams also furnishes a handsome pair. Messrs. Standish & Co., Messrs. Lane & Sons, Messrs. Barron, Mr. Shaw, Messrs. Yates, and others furnish extensive collections, which well deserve more extended notice than our space will allow this week.

Fuchsias.—There are a number in pots, though the general quality of the plants is scarcely up to what might have been expected in such a district. In Class 56, for six Fuchsias in pots (amateurs), the first prize was withheld; the second prize being taken by Mr. T. Gresty, gardener to R. Voss, Esq., Fallowfield, with varieties scarcely worth mentioning. Strange to say, there is no competition in the nurserymen's class for the same number of plants, nor in the open class for three standard Fuchsias. The special prizes given by Messrs. J. Rylands and J. Shaw for eight Fuchsias brought some competition; Mr. R. Fleming, Sandheys, Liverpool, being a long way first with very well grown and bloomed plants, but having the fault of being trained in a severely formal pyramidal shape. The sorts were Tristram Shandy, Turban, very like the foregoing, and La Crinoline, dark varieties; Reine Cornelissen, a double white-corollaed variety; and Reine Blanche, Fair Oriana, Rose of Castille, and Mrs. Marshall, light varieties. Second, Mr. George Edward, York, with La Favourite, dark; Guiding Star, Rose of Castille, E. G. Henderson, Alba coccinea, light varieties: Vainqueur de Pacbla, double white corolla, and others. Mr. Woodland also exhibits, having plants of much the same style of growth as those of Mr. Fleming, but badly flowered.

Pelargoniums.—A very large number of Variegated Pelargoniums are staged, using the term in the broad sense of including all the types of variegation. The first of the special prizes offered to amateurs for six variegated Zonal Pelargoniums was taken by Mr. A. Tokingham, Wilmslow, with good plants of Sophia Dumaresque, Queen's Favourite, Mrs. Dix, Florence, Countess of Craven, and Princesse Clotilde. The plants are dull in colour, but this is clearly traceable to the recent hot weather. Mr. Smith, gardener to J. H. K. Balstone, Esq., is second with Italia Unita, Edwinia Fitzpatrick, Mrs. Dix, Sophia Cusack, very fine; Beauty of Guestwick, and Miss Watson. With the exception of Sophia Cusack these also were badly coloured. Mr. E. Bridge, gardener to S. Jorett, Esq., has Italia Unita, Sunset, Mrs. Pollock, Agnes, Lady Callum, and Queen's Favourite, and should have received an extra prize.

There were also open classes for six Variegated Zonal and six Variegated Pelargoniums. In the former Messrs. F. & A. Smith, Dulwich, London, are first with Princess Teck, finely coloured, Lady Callum, and Earl of Shafteshury, golden-edged varieties; and Impératrice Eugénie, Miss Burdett Coutts, and Banshee, silver-edged varieties. Mr. J. Tomkins, Sparkhill, Liverpool, is second with Lady Callum, Sophia Cusack, Beauty, Miss Tomkins, and Sophia Dumaresque, golden-edged varieties; and Italia Unita, silver-edged. Mr. J. Smith, gardener to J. K. Balstone, Esq., is third with large but dull-looking plants of Mrs. Pollock, Sophia Dumaresque, Lucy Grieve, Countess of Tyrconnel, Beauty of Guestwick, and Sunset. With six Variegated Pelargoniums Mr. J. Tomkins is first with Flower of Spring, Burning Bush, Silver Star, Stella Variegata, Oriana Improved, and Miss Kingsbury. Second, Messrs. G. & W. Yates with Sophia Dumaresque, Lady Callum, Sophia Cusack, Countess of Craven, Florence, finely coloured, and perhaps the best specimen Variegated Zonal Pelargonium in the whole Show, and Italia Unita. Third, Messrs. Bell & Thorpe with Italia Unita, Miss Kingsbury, L'Elegante, Argus, Flower of Spring, and Golden Chain. In addition, Messrs. F. & A. Smith stage a fine group of Variegated Pelargoniums, some seventy-two kinds. The following are very striking, being in good condition:—L'Empereur, Sunray, Louisa Smith, Sultan, and Coronet, golden-edged Variegated Zonals; Miss B. Coutts, Mabel Morris, Peri, Her Majesty, Queen Victoria, Impératrice Eugenie, Celestial, and Diamond, silver-edged varieties; and the following promising gold and bronze varieties—Criterion, Nobilis, Modèle, Golconda, and Distinction, a very promising dwarf-growing variety in the way of the Rev. W. F. Radclyffe, and apparently an improvement on it.

In the matter of large-flowering Pelargoniums, Manchester is much behind other districts unless it is past their best. In Class 59, with six kinds, Mr. Bridge, gardener to S. Jorrett, Esq., is first with Duc de Magenta, Madame Lemiche, Le Vesuve, Regina Formosa, Princess Clotilde, and Bessie, well-grown plants, mainly of the French spotted type, and poor in quality. Second, Mr. C. Rylance, Ormskirk, with Charles Turner, Mary Hoyle, Amy Robsart, King of the Belgians, Beacon, and Desdemona. Third, Mr. Fleming. Fancy kinds are very much better done, being both well grown and flowered, while the varieties are more in keeping with the times in which we live as compared with some of the large-flowering varieties. Messrs. Bridge and C. Rylance were placed first, the former having the largest plants, which was quite balanced by the superior quality of those of the latter. The former has Evening Star, Undine, Acme, Ellen Beck, Masjid, and Celestial. Mr. Rylance has Undine, Illuminator, Sweet Lucy, Evening Star, Godfrey Turner, and Duchess of Buccleuch. Mr. R. Fleming was placed second, with Roi des Fantaisies, Acme, Delicatum, Lady Hume Campbell, Illuminator, and Indispensable.

In the amateur's class, for six Zonal Pelargoniums, Mr. Bridge is first with capital plants of Madame Werle, Monsieur G. Nachet, Excellent, Mrs. W. Paul, Eugene Mézard, and Virgo Marie. Second, Mr. R. Fleming, with Amelina Grisau, Mrs. W. Paul, Rebecca, Madame Vaucher, Softness, and Eugène Mézard. In the nurserymen's class, Mr. C. Rylance is first with Magnum Bonum, Clipper, Eugène Mézard, Madame Schott, Coronet, and Prime Minister, fine and well-grown plants. Second, Messrs. Bell & Thorpe, and third, Messrs. G. & W. Yates.

In the open class for six Nosegay Pelargoniums, Mr. Bridge is again first, with Lord Palmerston, Duchess, Amy Hogg, Profusion, Baron Ricasoli, and Le Grand; well-grown and flowered plants. Second, Messrs. Bell & Thorpe, Stratford-on-Avon, with Black Dwarf, Le Grand, Amy Hogg, Indian Yellow, Rebecca, and Startler. Third, Mr. G. Edward, York, with Christine Nosegay, Rose Rendatler (?), Orange Nosegay, and others similar to the foregoing.

In the class for three double-flowering Pelargoniums the competition was somewhat spirited, six groups being staged. Messrs. Carter and Co., of Holborn and Sydenham, London, are first, with capital plants of Madame Lemoine, Gloire de Nancy, and Wilhelm Pfitzer, very well grown and flowered. Messrs. Standish & Co., Ascot, are second with Surrey, Marie Lemoine, Madame Lemoine, and Triumph. Third, Mr. G. Edward, York, with Capitaine L'Hermite, Gloire de Nancy, and Triomphe de Lorraine. Thomas Jones, Esq., of Manchester, also gave two special prizes for the best six Zonal Pelargoniums. The first of these was taken by Mr. E. Bridge, with excellent plants of Miss Martin, Beauté de Parterre, St. Fiacre, Amelina Grisan, Clipper, and Rose Rendatler; the second by Mr. Woodland, gardener to Major Blundell, Liverpool, with Mrs. W. Paul, Eblonissante, George Hock, Madame Vaucher, Amelina Grisan, and Duchess.

The classes for Lilium lancifolium did not fill, nor did either of the classes for Achimenes, or that for six Gloxinias. The first of the special prizes given by Sir James Watts for six pots of Lilium auratum is taken by Messrs. G. & W. Yates, Manchester, with some good plants. Dr. Ainsworth, Manchester, is second.

The classes for Herbaceous Phloxes brought but two collections, and the best appeared to be composed of plants that had been lifted from the open ground purposely for the show. The same can be said of the one group of six Pentstemons, and even then they were so bad that the Judges refrained from making any award.

Double and single Petunias in pots are represented, but only indifferently well; but there are no Delphiniums, nor Lobelias of the fulgens type; nor Antirrhinums, nor Pyrethrums.

Carnations and Picotees.—Cut blooms of these are not nearly so numerous as at Leicester last year, though one might have supposed that the Manchester district being to some extent the northern home of the Carnation and Picotee, these flowers would have been much more largely represented. In Classes 89, with twenty-four Carnations, and 90, with twenty-four Picotees, Mr. C. Turner, Slough, has grand flowers, and both in size and substance of the blooms, as well as in their fine colouring, so completely distanced the rival collections, as to be without the pale of comparison. Of the former he has Flora's Garland, William Cowper, Ridleman, Dreadnought, Prince Albert, Premier, Samuel Moreton, Anthony Dennis, Florence Nightingale, Nymph, Sportsman, Squire Trow, Princess Royal, Lord Ranclife, King John, Duke of York, Captain Stott, Eccentric Jack, Brutus, Merrimac, James Merryweather, Annihilator, Touchstone, and John Bayley. Mr. George Edward, York, is second, the best flowers being John Reet, Virid, Earl of Stamford, Mrs. Edward, Beauty, Napoleon, True Blue, Miss Lucy, Brilliant, Delicata, and Lord Ranclife. Of Picotees, Mr. Turner has very fine flowers of Admiration, a very beautiful new bright purple heavy-edged flower of fine quality; Lord Nelson, Mrs. Fisher, Prince of Wales, Amy Robsart, Green's Lord Nelson, Mrs. Fisher, Prince of Wales, Amy Robsart, Green's Queen, Charmer, Lucy, Col. Clerk, Bridesmaid, Mrs. Norman, Miss Queen, Charmer, Lucy, Col. Clerk, Bridesmaid, Mrs. Norman, Miss Drake, Lord Valentia, Ganymede, Miss Wood, Countess, Gipsy Drake, Lord Valentia, Ganymede, Miss Wood, Countess, Gipsy Queen, Picco, Miss Turner, Rev. H. Matthews, Forester, Flower of the Queen, Picco, Miss Turner, Rev. H. Matthews, Forester, Flower of the Day, a heavy rose-edged seedling in the way of Green's Queen, but darker, and another light-edged seedling flower. Mr. George Edward is second with some flowers of inferior quality. In the classes for amateur growers there was no competition. The first of the special prizes offered by Mr. Broome for twelve Carnations and Picotees, was also taken by Mr. Turner, who had of the former Captain Stott, King John, Dreadnought, Sportsman, Eccentric Jack, and Favourite: and of Picotees, Miss Turner, a pretty new medium light rose-edged

flower; Miss Drake, Lord Valentia, Admiration, Mrs. Norman, and Miss Wood. Second, Mr. George Edward. In the class for twelve Pinks, Mr. J. Mellor, Stamford Street, Ashton-under-Lyne, produced a stand of true northern flowers, each flower having been reduced to two circles of petals, which are very pure and exquisitely laced, but the flowers appear very unnatural notwithstanding. The varieties are John Ball, Emily, Robin Hood, Jane, Emma, Auricula, Earl Stamford, Defiance, Bertha, Champion, Arlette, and Unity. Two other collections were staged, but the Judges withheld any awards to them.

Verbenas.—With cut blooms Mr. C. J. Perry, Castle Bromwich, and Mr. C. Turner, were found in competition. The latter certainly has the biggest bunches, but the superb quality of Mr. Perry's flowers gained the first prize. They are—Shakespeare, Model, Géant des Batailles, Edwin Day, rich bright orange scarlet; Annie, Lord Leigh, Butterfly, a beautiful new variety, blush, with crimson centre; Joseph Sanders, rich crimson, with lemon eye; Mrs. Reynolds Hole, and Rising Sun, glowing salmon red, with small white eye surrounded by a rich deep maroon ring, one of the most striking varieties Mr. Perry has ever raised. Differing from these, in Mr. Turner's stand, who was awarded the second prize, are King of Verbenas, Leah, Nemesis, J. C. Ward, Samuel Moreton, John Wilson, Foxhunter, and Chastity. Mr. Turner also contributes an extra stand of fine bunches.

With cut blooms of Zonal Pelargoniums, of which a great many are staged, Mr. C. Phillips, gardener to A. H. Heywood, Esq., Sedgley Park, Prestwich, is first with Clipper, President Reveil, Amy Hogg, Lord Palmerston, Provost, Le Grand, Striking, a good salmon-coloured variety; Rose Rendatler, Mrs. W. Punl, Hector, a pink-flowering variety; Beaute de Suresnes, and Madame Vaneher. Second, Mr. C. J. Perry, Castle Bromwich, with Mons. G. Nachet, Clipper, Beauty, Striking, Roi d'Italie, Vesuvius, La Perouse, a hybrid Nosegay; Model, Emeline Grisau, Madame Werle, Madame Vancher, and Beauté de Suresnes. Third, Mr. W. Cunningham, Burton-on-Trent.

Cut Roses are a grand feature, and make a charming display along the south side of the fruit tent. In the nurserymen's class for forty-eight varieties Mr. J. Cranston, Hereford, is first with some splendid blooms of the following Hybrid Perpetuals:—Alfred Colomb, Alice Durean, Antoine Ducher, Beauty of Waltham, Caroline de Sansal, Charles Lefebvre, Claude Million, Comte de Nanteuil, Comtesse de Chabrillant, Dr. Andry, Duc de Rohan, Duc de Wellington, Duchesse de Caylus, Felix Genero, Fisher Holmes, Horace Vernet, Joseph Fiala, Josephine de Beauharnais, La Duchesse de Morny, La France, Lælia, Laurent Descourt, Leopold I., Lord Herbert, Lord Macaulay, Madame la Baronne de Rothschild, Madame Boutin, Madame Charles Crapelet, Madame Charles Verdier, Madame Charles Wood, Madame Furtado, Madame Victor Verdier, Madame William Paul, Mdlle. Marguerite Dombrain, Maréchal Vaillant, Marguerite de St. Amand, Maurice Bernardin, Paul Verdier, Pierre Notting, Prince Camille de Rohan, Prince Henri des Pays Bas, Reine du Midi, Sophie Coquerelle, and Xavier Olibo: and the following Tea Roses—Gloire de Dijon, La Boule d'Or, Maréchal Niel, and Madame Margottin. Second, Mr. C. Turner, having fine examples of Madame C. Joigneaux, Gabriel de Peyronny, Madame George Paul, King's Acre, Marie Baumann, La Duchesse de Morny, Prince of Wales, Beauty of Waltham, Mdlle. Annie Wood, Lord Herbert, Charles Rouillard, Alfred Colomb, Madame Vidot, and Prince Camille de Rohan; Baron Gonella, Hybrid Bourbon; and the following Tea Roses, Madame Willermoz and Alba Rosea. Third, Messrs. S. Perkins & Son, Coventry.

In the amateurs' class for the same number, the Rev. S. Reynolds Hole, Caunton Manor, Newark, is first with a very fine lot of flowers, consisting of Maréchal Vaillant, Comte de Nantenil, Antoine Ducher, Miss Ingram, Madame Victor Verdier, Madame Furtado, Black Prince, Madame Caillat, Gloire de Santenay, Mons. Noman, Mdlle. A. Wood, Maréchal Niel, Dr. Andry, Madame Vidot, Senateur Vaisse, Caroline de Sansal, Vicomte Vigier, Gloire de Dijon, Maurice Bernardin, Madame C. Joigneaux, Lord Raglan, Princess Mary of Cambridge, Abbé Berleze, Centifolia rosea, Leopold I., Charles Rouillard, Laurent Descourt, Madame Bravy, Charles Wood, Exposition de Brie, Madame Charles Crapelet, Comtesse de Chabrillant, Madame Hector Jacquin, Charles Margottin, Alfred Colomb, Madame Rivers, John Hopper, Marguerite de St. Amand, Prince Henri des Pays Bas, Lord Herbert, Marie Baumann, Auguste Mie, and others which had lost their labels. Mr. J. C. Perry, Castle Bromwich, is second, with fine flowers of the following, among others, Senateur Vaisse, Horace Vernet, Alpaide de Rotalier, Baronne de Noirmont, Leopold I., Lord Clyde, Auguste Mie, Pierre Notting, Madame Rival, Xavier Olibo, Charles Lefebvre, Beauty of Waltham, Gloire de Vitry, Baron Gonella, and La Reine. Third, Mr. Draycott, gardener to T. T. Paget, Esq., Humberstone, near Leicester. The Rev. Mr. Hole is also first in Classes 98, 99, and 100, in the former with twenty-four varieties—viz., Black Prince, Madame Furtado, Maréchal Vaillant, La Tour de Crouy, Leopold I., Anna de Diesbach, Charles Lefebvre, John Hopper, Duc de Rohan, Marguerite de St. Amaud, Mdlle. Marie Rady, Maréchal Niel, Lord Raglan, Madame Knorr, Alfred Colomb, Charles Ronillard, Prince Henri des Pays Bas, Triomphe de Rennes, Vicomte Vigier, Miss Ingram, Madame Clemence Joigneaux, Pierre Notting, Monsieur Noman, and Comte de Nanteuil. Second, Mr. C. J. Perry; the best flowers being La France, Alice Dureau, Jules Margottin, Madame Fillion, Semiramis, Comte de Nanteuil, and François Lacharme. The twelve shown by Mr. Hole contain Black Paince, Maréchal Niel, Maréchal Vaillant, Madame Bravy, Lord Herbert, Comtesse de Chabrillant, Charles Lefebvre, Madame Furtado, Leopold I., Madame Vidot Vicomte Vigier, and Mons. Noman. Mr. C. J. Perry comes again second, and has among others good blooms of Beauty of Waltham, Maréchal Niel, Horace Vernet, and Général Jacqueminot. The Rev. Mr. Hole's six consist of Charles Lefebvre, Maréchal Niel, Alfred Colomb, Maréchal Valliant, La Duchesse de Morny, and Dr. Ardry. Second, Mr. Draycott; and third, J. E. Mapplebeck, Esq.

Class 101 was for twelve new Roses sent out in 1866, 1867, or 1868. Mr. J. Cranston, Hereford, was first, with good examples of Monsieur Noman, President Willermoz, Horace Vernet, Napoleon I., La France, and Duchesse d'Aoste, Hybrid Perpetuals; and the following Bourbon and Tea Roses—Miss Ingram, Madame Margottin, Monsieur Furtado, Madame Marie Circdle, President Willermoz, Souvenir de Mons. Boll, La France, Duchesse d'Aoste, Madame La Baronne de Rothschild, Paul Verdier, Horace Vernet, very fine; Imperatrice Charlotte, Antoine Ducher, and Mrs. Ward, all Hybrid Perpetuals, and Jean Sisley, a fine new Tea Rose. Second, Mr. C. Turner, with Comtesse de Jancourt, Mrs. John Berners, President Willermoz, Monsieur Noman, Horace Vernet, Napoleon I., La France, and Duchesse d'Aoste, Hybrid Perpetuals; Miss Ingram, Hybrid Bourbon; and Madame Margottin, Monsieur Furtado, and Clotilde, Tea-scented varieties. Third, Messrs. S. Perkins and Son.

The first of the special prizes given by Edward Joynson, Esq., for eighteen cut Roses (amateurs), was also taken by the Rev. S. R. Hole, who has fine blooms of Victor Verdier, Maréchal Valliant, Triomphe de Rennes, Prince Camille de Rohan, Comtesse de Chabrillant, Black Prince, Devoniensis, Leopold I., Charles Rouillard, Madame Victor Verdier, Marechal Niel, Dr. Andry, Madame Thérèse Levet, Madame C. Joigneaux, Louise Magnan, Madame Hector Jacquin, Duc de Rohan, Monsieur de Montigny, &c. Second, Mr. Thomas Draycott. Third, Mr. C. J. Perry.

In addition to these, Messrs. Cranston, Paul & Son, W Paul, and others staged large groups of cut Roses, making a fine addition to the Show, and Mr. W. Paul also has a lot of cut Zonal Pelargoniums.

New Plants and Miscellaneous.—The special prize given by Messrs. T. Agnew & Son for the best six new plants is taken by Messrs. Veitch with Davallia Moorei, a very elegant Fern, Dracæna albicans, Croton undulatum, a handsome kind, the fine Alocasia Sedeni, and Crotons maximum and albicans. The same firm also furnish a very extensive and fine collection, in which we remarked Anæctochilus Lowii, Gymnostachyum Pearcei, Maranta tubispatha, several fine new Crotons, a magnificent Nepenthes Rafflesiana with immense pitchers, Dendrobium Bensoniæ, Iresine Lindeni, and Iresine metallica, which if hardy enough will be beautiful for bedding; Dendrobium crystallinum, beautifully tipped with lilac; D. Bensoniæ, the handsome Ficus Porteana, and a host of others. Mr. B. S. Williams is second with a numerous collection, in which are Geonoma Seemanni, which will be one of the handsomest of Palms for dinner-table decoration, Odontoglossum Schlieperianum, with yellow flowers, Iresine Lindeni, Dieffenbachia Walhsii, Thrinax grandis, a handsome Palm, Phajus albus, white, with a lilac-streaked lip, Maranta tubispatha, and many others. Mr. J. Denton exhibits a very beautifully executed basket of artificial flowers in a case, and Mr. Kayes, of Wilmslew, skeletonised leaves and seed vessels, which are highly creditable. Mr. Denton was awarded a first prize, Mr. Kayes an extra prize. Mr. Robson, of Linton Park, has a large euseful of cones of various Coniferæ, which was a very interesting and pretty exhibition. Among the cones shown were those of Araucaria imbricata, Pinus insignis, Picea cephalonica, P. nobilis, P. Webbiana, Cupressus Lambertiana, Cryptomeria Lobbii and japouica, Retinosporus, Cupressus Corneyana, Wellingtonia gigantea, Abies Menziesii, Cupressus funebris, Abies Morinda, and Pinus macrocarpa. Mr. J. E. Mapplebeck and E. J. Lowe, Esq., send large collections of various forms of British Ferns, mostly new. Messrs. Stansfield have also an interesting collection. A few new plants were also submitted to the Floral Committee. These and some further remarks, however, must be deferred till next week.

FRUIT AND VEGETABLES.

The show of Fruit is, on the whole, good. Although not particularly extensive, it is possessed of many points of special importance. One of the most striking features is the very fine collection of fruiting Figs in pots exhibited by the Royal Horticultural Society itself, from Chiswick. It may be said, and with truth, that never before has such an exhibition of Figs been seen at any place, and we are glad to see the endeavours of the Society in popularising the cultivation of this fruit.

Mr. Meredith, of The Vineyard, Garston, Liverpool, exhibits some magnificent examples of Vines grown in pots:—Muscat of Alexandria bearing large and fine bunches, and young Vines for next year's fruiting, all grown, as stated on the card, by the aid of Meredith's Vine manure. Messrs. Lane & Sons, The Nurseries, Berkhampstead, send also some fine specimens of pot Vines and orchard-house trees; the former heavily cropped and excellent.

In Class 2, for the cup offered by the Proprietors of the *Gardeners' Chronicle*, for the best collection of Fruits and Vegetables, Mr. Pottle, gardener to B. D. Colvin, Esq., Bealings Grove, Woodbridge, Suffolk, carries off the first honours, and very worthily so. The collection includes very fine Black Hamburgh Grapes well coloured, two fine Melons, Frogmore Pine Strawberries, Black Circassian Cherries, French Crab Apples, Ipswich Standard Cucumbers, Laxton's Supreme

Peas, very fine, Merriott Scarlet Carrots, White Spanish Onions, Globe Artichokes, Johnson's Wonderful Beans, Prince Teck Potatoes, White Stone Turnips; every article being of the highest possible quality. Mr. Tillery, gardener to the Duke of Portland, Welbeck, shows very good Buckland Sweetwater Grapes, large Napoleon Cherries, two fine Melons, Peas, Turnips, Kidney Beans, &c. Mr. Freeman, gardener to Lord Derby, Knowsley Park, Liverpool, shows in his collection very good Black Hamburgh Grapes, Black Tartarian Cherries, two Melons, one big and the other very little, Cucumbers, very excellent Early London Cauliflowers. This collection occupied the second place. Mr. Dennis, gardener to R. H. Ainsworth, Esq., Moss Bank, Bolton, also exhibits.

Class 3 is for the prizes offered by THE JOURNAL OF HORTICULTURE—viz., two first prizes, value £10 10s., for the two best desserts, consisting of not less than seven kinds of fruits of 1869, arranged as for the dinner-table, combining quality of fruit with taste of arrangement. Mr. Carmichael, gardener to the Prince of Wales, was for the third time placed first, and if in former seasons he has shown creditably, this season he has far eclipsed his former efforts. It is not saying too much when we say that it is the most worthily awarded prize in the Exhibition. The collection contains two splendid dishes of Black Hamburgh Grapes, a little rubbing being their only fault; a dish of Muscat Champion Grapes, with berries of enormous size and most excellent flavour—it is of a grizzly character, and although sent out some years ago, we have never met with it in such fine condition; one dish of White Grapes; two Melons, Scarlet Gem and Gordon Castle; four dishes of Stirling Castle Peaches, of medium size, but beautifully ripe and good; two dishes of Violette Hâtive and Murrey Nectarines, very highly coloured; May Duke Cherries; one Prickly Cayenne, and one Queen Pine Apple, and two dishes of very good Strawberries. The other prize was awarded to Mr. J. Wallis, gardener to J. Dixon, Esq., Astle Park, Congleton, but his collection can in no way compare with Mr. Carmichael's, and we think the two should not, therefore, have been placed on an equality. It contains a very good dish of Barrington Peaches, and very good Black Hamburgh Grapes, two dishes of Cherries, Nectarines, Chasselas Musqué Grapes, a very small Pine Apple, Strawberries, and Apples.

In class 5, ten dishes of fruit of eight distinct varieties, the first prize a silver cup, value £10 10s., was offered by the Mayor of Manchester; the second prize, by Mr. Peter Bailey, Heaton Mersey, a silver cup, value £5 5s. The best exhibition in this class comes from Mr. Stevens, gardener to his Grace the Duke of Sutherland, Trentham, but through not having been entered in time, were not for competition. It consisted of two very excellent dishes of Black Hamburgh Grapes, with large berries, and most beautifully coloured, one dish each of Jefferson and Kirke's Plum, very fine Brown Turkey Figs, four Trentham Hybrid Melons, two excellent Pine Apples, Noblesse and Royal George Peaches, Hunt's Tawny and Brugnon Nectarines. It seemed a pity to see such a splendid collection passed over. The first prize was awarded to Mr. Miles, gardener to Lord Carrington, Wycombe Abbey, Bucks, who exhibits a good Providence and Ripley Queen Pine, Black Hamburgh and Muscat Grapes, the latter not ripe, very good Bigarreau Napoleon and Black Tartarian Cherries, a fine dish of Dr. Hogg Strawberries, good Elruge Nectarines, Royal George Peaches, and two fine Melons. The second prize was awarded to Mr. W. S. Dobson, 19, St. James's Street, London. This was very effectively staged on pretty glass plates on tall stems. It contains very good Black Hamburgh and Muscat of Alexandria Grapes, a good Smooth Cayenne Pine, good Royal George Peaches, Elruge Nectarine, &c., Mr. Wallis, gardener to J. Dixon, Esq., Astle Park, Congleton also exhibits a very good collection.

Class 7, six dishes of fruit, distinct, first prize by Lady Watts, £6 6s.; second prize by ditto, £4 4s. This is very worthily awarded to Mr. Simpson, gardener to Lord Wharncliffe, Wortley Hall, who here exhibits one of the finest Queen Pines in the Show, very good Black Hamburgh and Muscat Grapes, a good dish of Nectarines, small but excellent Peaches, and Heckfield Hybrid Melons. The second prize falls to Mr. Wallis, gardener to J. Thompson, Esq., Kirby Hall, York, who exhibits very fine Black Hamburgh Grapes, just a little wanting in colour, good Noblesse Peaches, Violette Hâtive Nectarines, Brown Turkey Figs, British Queen Strawberries, and Heckfield Hybrid Melons. Mr. Webley, gardener to W. Jackson, Esq., Manor House, Birkenhead, shows an excellent lot, including splendid Black Hamburgh and Buckland Sweetwater Grapes, Royal George Peaches, Nectarines, Melons, and Cherries. Mr. Janson, gardener to T. Statter, Esq., Stand Hall, Manchester, likewise exhibits.

Class 22, six bunches of Grapes Black and White, first prize by Mr. Thomas Baines, Bowdon, silver cup value £5 5s.; second prize by Messrs. Johnson & Fildes, £2 12s. 6d. The first prize was awarded to Mr. Freeman, gardener to Lord Derby, for very good examples of Black Hamburgh and Muscat of Alexandria; the second to Mr. Janson for Black Hamburgh and Canon Hall Muscat, the latter not nearly ripe. Mr. J. Roberts, gardener to the Hon. Major Barry, Charleville Forest, Tullamore, Ireland, exhibits very large but badly coloured bunches of Black Hamburghs and Muscats. Mr. Farquharson, Acton Park Gardens, Wrexham, shows Black Hamburgh and Buckland Sweetwater. Mr. Cardwell, gardener to T. Dobson, Esq., Pownall Hall, Wilmslow, Cheshire, shows Frankenthal under the name of Mill Hill, Black Hamburgh, Muscat of Alexandria, and White Frontignan. Mr. Whittaker, gardener to Lord Crewe, shows Buckland Sweetwater and Black Hamburgh.

Class 43, six bunches of Black Hamburgh Grapes; first prize, £2 10s.; second, £1 10s.; third, £1 5s. all offered by Messrs. W. G. Galloway & Co. This was a well-contested class, and the first prize fell to Mr. Wooley for twenty splendid examples, perfect in every sense. The second prize went to Mr. W. Jones, gardener to S. K. Mainwaring, Esq., Oteley Park, Ellesmere, also very fine. Mr. Freeman, Knowsley, is third. Mr. Hill, Keele Hall, shows small but well-finished fruit. Mr. Wallis, gardener to S. Thompson, Esq., Kirby Hall, York, has very fair examples, wanting in colour. Mr. Chambers, Shirley, Birmingham, Mr. Janson, and Mr. Broadrett, gardener to E. Boden, Esq., Bowden, also exhibit.

In Class 17, for two bunches of White Grapes, the prizes were offered by James Collins, Esq. The first prize is awarded to Mr. Janson for Muscats; the second to Mr. Freeman for the same. Mr. Hill shows Buckland Sweetwater, Mr. Cardwell very good Muscats; Mr. Wallis, Astle Park, Foster's White Seedling.

Class 25, for six Pine Apples: first prize offered by Messrs. Armitage & Rigby, £5 5s.; second and third prizes by Abraham Haworth, Esq., £3 3s. and £2 2s. respectively. The first prize was awarded to Mr. Smith, gardener to H. Walker, Esq., Calderstone, near Liverpool, for six fine, clean, and even Ripley Queens. Second prize to Mr. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, for one fine Queen, weighing 5¼ lbs., three Smooth Cayennes, respectively 6¾ lbs., 7 lbs., and 7¼ lbs.; one Prickly Cayenne, 6¼ lbs., and one Black Prince, which being a little gone disqualified the collection from taking the first prize, which they would otherwise have done. Third, to Mr. Simpson, Wortley Hall, for six small but nice fruit of Ripley Queen. Mr. Hepper, gardener to J. B. Walmsley, Esq., The Elms, Acton, W., sends six good-sized Queens, very much out of condition however. Mr. J. Denvill, gardener to Major Martin, Wooten Hall, Ashbourne, and Mr. Clarke, Panshanger Park, Hertford, also exhibit.

Class 31, one Pine Apple, any variety; first prize by Richard Haworth, Esq., £2 2s.; second prize by Arthur H. Heywood, Esq., £1 1. First prize awarded to Mr. Ward, for a splendid Queen weighing 6 lbs. Second prize to Mr. Clarke, Panshanger, for a Prickly Cayenne, which was not much more than half ripe.

Class 21, one dish of Peaches and one dish of Nectarines; prizes offered by Charles Durham, Esq., £3 3s. and £2 2s. respectively. First prize awarded to Mr. Tillery, Welbeck, for very fine Galande Peaches and Elruge Nectarines. Second prize, to Mr. Wallis, Astle Park, for good Barrington Peaches and Red Roman Nectarines. Mr. G. Morris, gardener to G. Oliver, Esq., Wood Hayes Park, Sale, near Manchester, shows very fine Royal George Peaches and Elruge Nectarines. Mr. James, gardener to the Duke of Leinster, Carton, Maynooth, and Mr. Norbury, gardener to W. McKenzie, Esq., The Priory, Bowdon, also exhibit.

Class 110, collection of fruit, eight dishes, six kinds. The best exhibition in this class comes from Mr. Miles, gardener to Lord Carrington, but which by some oversight only contained seven dishes instead of eight, had to be disqualified. The first prize was awarded to Mr. Simpson, Wortley Hall, who sends very good Grapes, Black and White, two small Pines, Peaches, Nectarines, Figs, and Melons. Mr. Miller, gardener to Lord Foley, Worksop Manor, was awarded the second prize, and his collection consists of fine Peaches, Black and White Cherries, good Black Hamburgh Grapes, and Foster's White Seedling, Figs, Nectarines, &c.

Class 111, Pine Apples, any variety. The first prize went to Mr. Ward for a fine Smooth Cayenne, weighing upwards of 6¼ lbs. Second, Mr. Denvill, for a Providence. Third, Mr. Chambers, Old Shirley.

Class 112, Grapes, Black, single dish. The first prize was awardde to Mr. Jones, gardener to S. K. Mainwaring, Esq., Oteley Park, Ellesmere, for fine examples of Black Hamburgh, very perfect in bunch and berry. Second, Mr. Woolley, for nearly equally fine examples, more regular in bunch, but not quite so large. Third, Mr. M. C. Watkins, Holmer Park, Hereford, for very large and well-coloured but sprawling bunches of Gros Guillaume. Messrs. Lane & Sons show good examples of Alicante, and Mr. Chambers large bunches of Black Hamburgh. Mr. Pottle, Mr. Smith, and Mr. Wallis also exhibit.

Class 113, White Grapes. This is altogether a poor display. The finest example is the Muscat of Alexandria from Messrs. Lane and Sons. One bunch is, however, rather green, and on that account was passed over by the Judges, and the first prize awarded to Mr. Wallis, Astle Park, for Foster's White Seedling. Second to Mr. Hill for the same. Third to Mr. J. Bolton for much over-ripe Buckland Sweetwater.

Class 114, Peaches. The first prize was awarded to Mr. A. Hay, gardener to Mrs. Holland, Sandway House, Altrincham, for magnificent examples of Royal George; the second prize to Mr. R. H. Smith, Calderstone, for beautiful Bellegarde; the third to Mr. Tillery for Galande. There are numerous exhibitors in this class, and many excellent dishes of fruit.

In Class 115, Nectarines, the first prize was awarded to Mr. Carmichael, gardener to H.R.H. the Prince of Wales, for a truly splendid dish of Violette Hâtive. Mr. Tillery, Welbeck, was placed second for, the same kind; and Mr. Turner, The Royal Nurseries, Slough, third for fine examples of Hunt's Tawny.

In Class 117, Figs, Mr. Freeman, Knowsley, is first for Brown

Turkey; Mr. J. Malcolm, Cholmondley Castle, Nantwich, second for Brown Turkey; Mr. Simpson third.

Class 118, Cherries, the first prize went to Mr. Tillery for a good dish of Bigarreau; the second to Mr. Goldsmith, gardener to Sir W. Farquhar, Bart., Polesden; the third to Mr. Smith, Calderstone.

In Class 119, Strawberries, four dishes distinct, there are sixteen competitors. The first prize was awarded to Mr. Farquharson, Acton Park Gardens, for President; second to Mr. R. S. Yates, nurseryman, Sale, for Lucas; the third to Mr. Hulme, for very fine Myatt's Surprise.

In Class 120, Strawberries, single dish, there are eleven competitors. First prize to Mr. J. Fowler, gardener to the Earl of Harewood, Leeds, for a very large and fine dish of President. Second to Mr. Farquharson, for Sir C. Napier. Third to Mr. J. Hulme, Timperley, Cheshire, for Myatt's Eleanor.

Class 121, Melon, Green-fleshed. The first prize was awarded to Mr. Webster, gardener to T. L. Behrens, Esq., Glyngarth, Bangor, for Golden Queen; the second to Mr. C. Frisby, gardener, Blankney Hall, Sleaford, for Brombam Hall; the third to Mr. Turner, Royal Nurseries, Slough.

In Class 122, Melons, Scarlet-fleshed, there are fourteen competitors. The first prize is taken by Mr. James, gardener to the Duke of Leinster, Maynooth, for Scarlet Perfection; the second by Mr. Clark, gardener to J. C. Brown, Esq., Holmbush House, Horsham, Sussex, for Clarke's Hybrid; the third by Mr. J. Bolton, gardener to W. Worswick, Esq., Birstall Hall, Leicester.

In Class 123, Plums, single dish, the first prize is awarded to Mr. Janson, Stand Hall, for Goliath; the second to Mr. Whitworth, gardener to J. Galloway, Esq., Stamford Bridge, Bowden, for Prince of Wales.

In Class 124, basket of out-door fruits, four distinct kinds, the first prize went to Mr. Deavill for Raspberries, Strawberries, Cherries, and Currants; the second to Mr. Hill, gardener to W. Tipping, Esq., Bald Hall, St. Helens, for a similar collection; the third to Mr. G. Elkins, gardener to F. H. Birley, Esq., Hart Hill, Pendleton, for Red and Black Currants, Cherries, and Raspberries.

In the Miscellaneous Class for fruits not mentioned in the schedule, Mr. Thomson, gardener to the Duke of Buccleuch, Dalkeith, shows a bunch of each of the following kinds of Grapes:—Black Hamburgh, Alicante, Chasselas Napoleon, Royal Muscadine, Grizzly Frontignan, Reeves's Muscadine, Royal Ascot, and a splendid bunch of his superb seedling Grape the Golden Champion, which, although not ripe, served to show its extraordinary properties and high merit. For this exhibition a special certificate was awarded. Messrs. Standish exhibit a fine boxful of Royal Ascot, which fully maintains its high prestige. Messrs. Lane & Son exhibit several varieties of Grapes in fine condition. Mr. Henderson shows his new Grape, which greatly resembles the Black Morocco, although quite distinct. Mr. Ingram, Belvoir, shows a collection of fifteen varieties of Strawberries in first-rate condition. Mr. J. Robson, gardener to Viscount Holmesdale, shows a most splendid basket of home-grown Oranges, Citrons, Loquats, &c., for which he was awarded a special certificate. Mr. Deavill shows a splendid specimen of Black Alicante Vine in a pot, bearing six fine bunches.

The remainder of the vegetables and other miscellaneous matters, for which we have no space this week, will be noticed in our next issue.

VICOMTESSE HÉRICART DE THURY STRAWBERRY.

Assuming that the above and the Prince Imperial are the same, I may observe that I tested the latter carefully this year, both under glass and in the open ground, side by side, with Keens' Seedling. Admitting that it is quite as early, more even in size, and firmer in flesh than Keens', it always proved deficient in sweetness; so much so, that I purpose adhering to Keens'.

For home consumption, where large quantities are required by persons whose palate is not highly educated, I recommend Empress Eugénie; for fastidious tastes, the British Queen, Rivers' Eliza, and Myatt's Filbert Pine. To these, as a late variety, not to be eaten till almost black, the old Downton, somewhat acidulated, perhaps, but very rich, should be added.—G. S.

DWARF APPLE TREES.

I have always felt some interest in the cultivation of Apple trees grafted on the sorts of stocks that dwarf them and make them fit for small gardens, and so about fourteen or fifteen years ago I made a small plantation of dwarf trees, some of which were grafted on Doucin and English Paradise stocks (between which there seems little difference, at least with some of them), and others on the French Paradise, which makes very dwarf trees. In the course of last winter or spring, much was said respecting the nature of Apple stocks. There was nothing new advanced, but my attention was called to my dwarf trees, and I made the following notes of the height and state of health of my trees growing in a soil very deep, cold, and retentive of moisture. Those marked "E. P." are grafted on English Paradise and Doucin stocks; those marked "F. P." on French Paradise stocks. All the trees are full of fruit.

Perle d'Angleterre, F.P. 2 feet. Healthy.	Flower of Kent, E.P. 3 feet. Cankered.
Reinette Grise de Champagne, F.P. 1 foot. Healthy.	Pauline de Vigny, F.P. 1 foot. Cankered.
Court-pendu Gris, F.P. 1½ foot. Healthy.	Reinette Jaune Hâtive, F.P. 2½ feet. Healthy.
Claygate Pearmain, E.P. 3 feet. Healthy.	Ribston Pippin, E.P. 2 feet. Cankered.
Golden Russet, E.P. 3 feet. Healthy.	Dutch Codlin, E.P. 2 feet. Healthy.
Emperor Napoleon, F.P. 2 feet. Cankered.	Summer Pippin, E.P. 3 feet. Healthy.
Empress Eugénie, F.P. 2 feet. Cankered.	Pearson's Plate, E.P. 4 feet. Healthy.
Reinette Dorse, F.P. 1½ foot. Cankered.	Guernsey Pippin, E.P. 3 feet. Healthy.
Reinette d'Angleterre, F.P. 2½ feet. Healthy.	

These trees have been occasionally removed, so that their growth has been checked. All of them are most prolific. It will be seen that the French Paradise stock retains its well-known character of being very dwarf.

I have been led into a notice of my trees by reading in one of our newspapers Mr. W. Robinson's, to a certain extent, erroneous opinion, that the French Paradise stock "suits well the stiff loamy and wet soils" hostile to fruit culture in England. In France this practice is carried out, and stiff cold soils chosen, otherwise the roots of the trees, being so near the surface, would be scorched by the fierce sun of France, and laid bare by the violent storms of summer. In England, if we wish to succeed in cultivating Apple trees on the French Paradise stock, we must entirely reverse the French practice, and plant them in rich generous soils rather dry than wet. But the question is, Do we require Apple trees for our gardens grafted on a foreign stock? I think not, if we may believe our eyes. Mr. Rivers, of Sawbridgeworth, exhibited some Apple trees at South Kensington on July 6th, not averaging more than 18 inches high, all full of fruit and clean and healthy—no canker to be seen. Mr. Rivers tells me that he cultivates from ten to twelve acres of these little trees, so well adapted for suburban gardens, and that upwards of 100,000 are sold each season, the demand increasing and the price decreasing annually. They are not sold as bush trees till they are from two to five years old, when they bear the first year after planting. As cordons, for which they are better adapted than the French Paradise stock, they are sold when one and two years old; but the very pretty bush-like trees exhibited by Mr. Rivers are more popular than cordons, requiring no wires, and but little trouble.—Pyrus Malus.

CULTIVATION OF QUEEN ANNE'S POCKET MELON.

Nothing has surprised me more than to hear that many persons have failed in the culture of this Melon; and some of them so much as not to bring a single fruit to perfection for two seasons. This is far from satisfactory, especially as it applies to what I consider to be one of the hardiest and most prolific Melons in cultivation. I am called upon to grow it largely here, not only to supply a handsome dish for dessert through the autumn months, but also for preserving whole, which if done properly, preserves for the Melons their handsome markings of orange and green, and when laid up in dishes in numbers of seven, nine, or eleven, gives them an appearance unequalled by any other kind of preserved fruit. In their preserved state the fruit is delicious, but in any other way the flavour is very inferior. I have been requested to detail my course of treatment, which I most willingly do, and shall be pleased if through my remarks the above difficulty is overcome.

By the time this appears in print, sow sufficient seed for an autumn crop; I advise as a more expeditious plan putting the seeds three in a 3-inch pot, using as many as are required for the crop; place them in a gentle heat—it is not necessary this should be artificial—though that from manure will assist them to vegetate. When the plants are sufficiently grown to show the third leaf, take away the two weakest plants, and grow the others on in pots till the fourth or fifth leaf appears. Then

plant them in a one, two, or three-light frame, according to the crop required, placing it where it may receive sunshine early and late; place the frame on the bare ground. A gentle bottom heat will start the plants well, though I generally grow them without this, raising the plants to within a foot of the glass by rough material placed below the soil. A moderately rich loamy soil not very light, 1 foot in depth, is what I find them thrive in. A three-light frame will take six plants; some would plant twelve, but I find no advantage from it; two plants to a light 3 feet apart, which, if an ordinary-sized frame 6 feet wide, will leave 18 inches between the plants and the frame.

After the plants are put in, water and shade until they are established, but if the frame is properly ventilated there is no need for shade afterwards. When they have grown about 4 inches high, take the point out of the leading shoot, thus causing the side shoots to appear; train these evenly over the bed, and grow them fast until they are 18 inches long. Then take the point out of each of these, which, in turn, push forth shoots, generally fruiting ones. These should be regulated and grown with the greatest care; when they show about two fruits each, stop them one joint beyond the last fruit, and on these coming into bloom, fertilise the female blossoms with the pollen from the male flowers, which should appear in abundance at this stage. During this process a dry atmosphere and more ventilation should be secured for the pollen to take effect.

After the fruit has begun to swell, and if the weather is favourable, a good watering will assist the plants, but at all times during their growth avoid too much water, keeping the soil moderately moist; but when water is applied, thoroughly soak the soil. I object to the common practice of syringing the foliage, as I consider the water lodges on the joints of the stem, causing them to canker and die off; besides, I find enough moisture rises from the soil to keep the foliage in perfect health if properly applied. At all favourable opportunities give them air early—say by seven in the morning, increasing it as the day advances, and shutting-up early—say by three o'clock; but in such hot weather like the present, a little may be left on all night.

After the crop of fruit is set, thin-out all superfluous growth as it appears; although enough must be left for the proper development of the plant and fruit, it is very easy to leave too much. As each fruit approaches its natural size, it may be be raised on small pots, not only to keep it clear of the water, but also to assist its ripening.

In growing this or any other sort of Melon, it is best to avoid planting new seed, or that saved from last year's fruit; such seed generally produces wood and foliage at the expense of the fruit, and will flag at the least exposure to the sun. I find that seed about four years old is in every way more desirable; the foliage is smaller and firmer in texture, consequently enduring the sun much better, the growth is more compact and fruitful. I therefore save a little seed of a favourite Melon every year, and date it properly, therefore avoiding any such mistake as above alluded to.—Thomas Record, *Hawkhurst*.

NOTES ON A FEW NATIVE HERBACEOUS PLANTS.

While so much has been done by horticulturists in introducing and cultivating exotics, it is curious to note how our native herbaceous plants have, with a few exceptions, been quietly passed by as if wholly incapable of improvement. I am not a believer in the absurd old adage which says that "familiarity breeds contempt," unless when the familiar object is really and truly contemptible; but it seems to have done so in this case, leaving many beautiful objects to be appreciated only by botanists, in whose eyes every green thing is interesting. Assuming such to be the case, there are some plants eminently worthy of cultivation, and just sufficiently rare to keep them out of the category of common plants. Foremost among these stands that strikingly handsome biennial

Echium vulgare.—This is thought by some to be the finest of all our native herbaceous plants. It grows to the height of 3 and sometimes 4 feet, and is of an upright formal character, and therefore well suited for single specimens in a border. It is composed of one central and sometimes as many as a dozen side compound spikes, all clothed nearly to the ground with a profusion of bright blue flowers, and as in some other Borageworts, an occasional pink one varies the general appearance. It is mostly found on waste sandy places by the sides of rivers, on chalky hills, and occasionally upon old crumbling wall

To cultivate it successfully, the border should be of deep light soil, free from trees, and otherwise unshaded. It is a biennial; the seeds should be sown in May or June, and the plants will flower in June and July in the following season. That it is inclined, even when not under cultivation, to break away from its normal state is very evident. Not to mention the white variety, which is by some considered to be a distinct species, there are numerous shades of blue, ranging from almost purple to the light azure tint of Myosotis. The variety of habit and size of flower as seen in different plants are also remarkable.

Myosotis palustris, the true Forget-me-not, with its blue and yellow flowers and its very pathetic but rather improbable legend, has always been a favourite flower; and although of a half-aquatic nature, it can be grown very well in any rather damp border.

Myosotis sylvatica is also now a well-known plant, being, along with some others not natives, largely employed for flower-garden purposes; but there is a dwarf or alpine form of it which is by no means so common. It is Myosotis alpestris, and is found only, in this country, near the summits of the highest mountains in the highlands of Perthshire and Aberdeenshire. I have seen plants of it under cultivation, and a gem it is in its way, having large dense heads of blue flowers. It is rather difficult to cultivate, and, I believe, requires the protection of a frame in winter.

The Vicias are a plebeian race, V. sativa being the common Vetch of cowhouse notoriety, yet among them we find some of our most beautiful climbing and trailing plants. V. sylvatica, though not rare, is far from being plentiful, and is mostly found in bushy "ghylls" up among the mountains. It grows to 4 or 6 feet in height, and bears a profusion of white flowers streaked with purple. Orobus sylvaticus, which is not nearly so beautiful, is sometimes mistaken for it. V. Cracca is very common, and very handsome with its long racemes of light purple flowers. For twisting lightly round the glass stem of a dinner-table flower-stand it is one of the most graceful things to be found, and I frequently use it for that purpose.

Mertensia maritima is another Borage wort, which I meant to notice after Echium. It is said not to be found on the English shores, but is frequently met with here, and all along the west Highland coast. It has fleshy, glaucous leaves, and curiously twisted rope-like roots, the loose racemes of small blue flowers being pretty rather than showy; but the whole appearance of the plant is exceedingly graceful. I have a few plants of it, which were struck from cuttings, as I found it impossible to extract the long bare roots from among the sand and stones where I found them. It is commonly called the Oyster plant, from the flavour of the leaves somewhat resembling that of oysters.

Calystegia Soldanella, the Seaside Convolvulus, is also well worthy of a place in the herbaceous border. It is an evergreen trailing plant, with very large rose-coloured flowers, which it produces abundantly during June and July. I have grown it for some years from seed saved from cultivated plants, but no varieties have been produced.

Parnassia palustris, the pretty cream-white Grass of Parnassus, though always described as a marsh plant, is nearly as often found on rather dryish upland pastures, from which it is easily transplanted, and grows tolerably well in an American peaty border. I read, not long ago, I think in "our Journal," as an instance of plant-growing under difficulties, of a lady in the city quarter of London, who grew this among some other plants in pots on the leads of the house! Doubtless, it was there as a *souvenir* of some breezy hillside, a wee bit of poetry carried home from the country, or, perhaps, it was set up as a standing protest against men's piling bricks on bricks as closely and thickly as if living flowers and fresh air were superfluities. —Ayrshire Gardener.

FRUIT PROSPECTS IN YORKSHIRE AND KENT.

The readers of "our Journal" must not conclude that because there is a small crop of fruit at Middlesbrough-on-Tees, therefore the fruit crop is a failure throughout Yorkshire. Living as I do in a cool part of Yorkshire, where the average rainfall is 36 inches, I have this year an abundant crop of fruit in my garden. The Peach trees, trained against a south brick wall without any glass protection or artificial heat, have set a most abundant crop. Hundreds of fruit had to be pulled off. The first thinning was made as soon as the fruit had cast off the blossom. The second and last thinning was done when it became possible to distinguish between the weak and the vigor-

ous fruit, and no more are left than what the trees ought to bring to perfection. My gardener considers it to be bad practice to leave the trees to thin themselves during the stoning process. Here such a thing as a fruit falling off, except when ripe, is not known.

I had the pleasure of seeing Mr. Rivers and his garden this spring, and was surprised to observe the almost total failure of his Peach crop. He attributed the loss of this fruit to the extreme moisture of the atmosphere while the trees were in flower. This wet made the pollen into paste. He was, however, quite unable to explain how it came to pass that the wet did not injure the pollen in my garden. I think we must look elsewhere if we would account satisfactorily for this failure. Strange as it may sound to many persons, I am convinced that last year was anything but a favourable year for the ripening of the Peach wood. The trees suffered from the extreme dryness of the soil throughout the summer, and were not improved by being stimulated into growth by the autumnal rains. The mischief then done developed itself in the spring. Here the long shoots shed almost all their flowers, which showed that the wood had not been sufficiently ripened in the autumn. But I never look for a crop from the long shoots; they are simply considered to be exhausters to draw the sap and prevent the spurs from being stimulated into growth by the autumn rains, and they performed this duty last year to admiration. My trees were covered with short well-ripened spurs. These this spring were first clusters of flowers, then dense knots of fruit. My Peach trees trained on this system have not failed for the last seven years to carry good crops.

The Cherry trees, as usual, are loaded with fruit. Pears set an enormous crop, and they provided my gardener with several days' work, first in thinning the trusses of bloom, and then in cutting off the superabundant fruit.

My Plum trees have to a great extent failed to perform their proper duties. There is but a sprinkling of fruit on six large trees, and I should have comforted myself under this failure by growling out something about pasty pollen and north-east winds, but it so happened that I had three Plum trees forked out of the ground last autumn, as I wished to satisfy myself as to the state of their roots. These three trees have each of them a good crop. So, then, it cannot be the winds, nor yet the rains, but the cultivation that is in fault. The fact is, our fruit trees are in too many instances left to take care of themselves. If they bear fruit, well; if not, it is the season—the wet or the dry, the winds, or the scarcity of bees, or the multiplicity of birds, or the flight of insects—anything, in fact, except the true cause. The Victoria Plum is as prolific as usual.

I have also an average crop of Apples. Those trees that have been grafted on the Paradise stock are doing better than those on the Crab. So you see I can with all thankfulness adopt your motto—"All's well."—C. M.

In an able article in *The Record* of July 7th on the food-producing prospects of the year, the writer observes that "Of fruit and vegetables there must be, under any circumstances, a lamentable paucity." In the case of fruit the assertion is unfortunately true enough, but as regards the supply of vegetables it is not so correct. Vegetables, so far as I have seen, are both abundant and of a fair average quality. The only crop to which any exception can be taken is that of some Potatoes; and even in this case, wherever a weakness of growth is perceptible, it is due more to the capricious weather of last season than to the inclemency of the past spring. But although the supply of vegetables is good, that of fruit is very much below par. Never did a year open with brighter prospects for fruit-growers than this, and never were hopes and trees together so ruthlessly blighted. After so hot a summer as that of 1868, tending to make the wood firm and well-ripened, with an abundance of blossom buds, it was reasonable to expect a fruitful year had the spring been favourable. But all these bright hopes have been dissipated, for surely never was known so disastrous a spring—from all parts come reports of scanty crops, foliage bruised, and in exposed situations torn to shreds; nor, so far as I can learn, are there any exceptions to this unfortunate state of affairs, but trees under almost all methods of training and culture have suffered alike. It is only on trees in very sheltered positions that fair crops are to be seen.

Standard Plum trees in most instances have a miserable crop of abortive bladder Plums, stoneless and deformed; while Cherry orchards, whose trees were "clouds of bloom," and whose fruit at one time appeared to be setting thickly, have shed their fruit to a ruinous extent, to the great loss of many fruit-speculators. A custom prevails in most parts of Kent, as soon as the blossom of orchard trees has fallen and the young fruit are visible, to sell the crop by auction. This year the prices obtained were generally very high, and consequently it will probably prove a disastrous season to the buyers. In one case, so abundant and so promising was the crop, that although the crop of last year was good, yet the highest bid of last year was almost doubled. Bush fruits do not appear to be materially affected. When looking over my neighbour Mr. White's fruit trees lately, I was amused to find him, while suffering from the loss of the greater part of his Apple crop, arranging for the planting of an additional half acre of Gooseberry bushes; and a very sensible proceeding I thought it, for Gooseberries are always marketable, and, taking the average price of the crop of a moderate-sized bush at 6*d*.—a safe figure, an acre containing 1200 bushes gives the very handsome sum of £30 annually.

I noticed a remarkably fine old Pear tree growing under the shelter of a steep cliff near Mr. White's house, on which the fruit clustered almost as thickly as Hops on a pole—an uncommon sight this summer, and I was assured that the same tree actually produced thirty-six bushels of fruit last year. Its name was unknown, but I fancy it is either the Swan's Egg or the small Autumn Bergamot.

Amongst Pears on walls Jargonelle, Louise Bonne, Napoléon, and that king of winter Pears, Winter Nelis, have good crops. Beurré Diel, too, has an excellent crop, which kind, although not a first-class dessert Pear, is yet a most useful hardy variety, and may almost invariably be depended upon for an annual supply. A tree growing here on an east wall has produced a full crop of fine fruit for five consecutive years, nor does its crop of the present season appear to be at all affected by the ungenial spring.

All the dwarf-growing fruits, such as Raspberries, Currants, and Gooseberries, are abundant. The last have been selling in the green state at from 5*s*. to 6*s*. per sieve of eight gallons to the dealers hereabouts. Concerning Strawberries, as I intend to offer some notes later in the season, I will only remark here that that most robust kind, Trollope's Victoria, has a heavy crop of fine fruit, quite equal to that of any other season. Peach, Nectarine, and Apricot trees have very healthy foliage, and are growing vigorously, but are, with very few exceptions, without fruit. Filberts and Cobnuts are also a short crop. Of Plums, a few trees on a south-west wall have a moderate sprinkling of fruit, but the Green Gage is a total failure.

But the most vexatious trial of all is that of those who have the care of unheated orchard houses. Their great failure will doubtless in many cases be a source of annoyance; yet if it result in the introduction of even a couple of pipes throughout the entire length of the orchard house, it will be fraught with much future good, not only to the fruit trees themselves, but by rendering the orchard house a most useful auxiliary for growing other crops, especially early in spring. So obvious are its uses in spring that it is almost unnecessary to recount them. If I did so, bedding stock, salading, Strawberries in pots, pot Roses, bulbs, and a host of other useful subjects would claim a notice, for no one will willingly trust any tender or half-hardy plant to our fickle springs, whose cold cutting blasts so often alternate with the tempting brightness of an April sunshine. Thatched hurdles, mat screens, and all such makeshifts are very well in their way; but, after all, it must be granted that a bright glass structure with a genial temperature, a free circulation of air, and where the wants of the plants can be attended to in all weathers, is altogether more convenient and more conducive to the health of the plants, not to mention the comfort of those who have the care of them.—Edward Luckhurst, *Egerton House Gardens, Kent.*

PELARGONIUM FLOWERS FALLING.

Attached to the back of my house in a northern suburb, with aspect nearly due south, is a small glass house, about 8 feet by 6, with board floor (being, in fact, built over the scullery). About five or six weeks ago I bought of a hawker half a dozen Pelargoniums and two Fuchsias in full bloom; these were placed at once in the house, and the next morning all the blooms had fallen. This I was not much surprised at, as the plants had evidently been grown in strong heat, and the sudden change of temperature I considered was sufficient to account for the misfortune. I have, however, just sustained a similar mishap under exactly opposite conditions, having pur-

chased half a dozen Scarlet Pelargoniums in full bloom, which were well-hardened plants, and appeared to have been bloomed out of doors; these were placed in the house, and the next morning all the blooms had fallen off. Fuchsias which have been in the same place since last year, have come fairly into bloom, although even in them there is a disposition for the buds to drop off before opening. Can you give any explanation of these results?—G. H. L.

[Your description is not full enough to enable us to point out the cause of the flowers dropping, especially in the second case. We can well understand that plants coming on in such a house would not suffer so much as plants bought and taken in, as they would be less liable to the noxious influence whatever it may be. With care in watering and plenty of ventilation, we can only think of the following:—First, in this hot weather, leave the house open as respects ventilation night and day. Secondly, is there nothing wrong on the part of the house? Is it lead, or zinc, and thoroughly dry? Thirdly, is the wooden floor free from a strong resinous exhalation? Fourth, is it so close as prevents all exhalations and vapour reaching it from the scullery? And lastly, is the house free from all influence from gaslights? It is just possible the last cause may be the especial one. We have under our notice at present three rooms in which plants did remarkably well in the windows, but lately they would not thrive, and the buds dwindled without opening. These rooms, though large, have had a little gas burned in them lately. On turning the plants outside they have grown and bloomed nicely; but the windows were shut before the gas was lighted. Nothing is so injurious to plant life as gas. We see any day the course of gas pipes through a grass field, and we can tell easily where there is an approach to a pin point in the deficiency of a joint of the pipes from the whitened state of the grass over the joint.]

WORK FOR THE WEEK.

KITCHEN GARDEN.

Ply the fork incessantly amongst growing crops of Broccoli, Cauliflowers, and Winter Greens; continue to manure and trench all ground as it becomes vacant, and plant it with late crops. Prepare trenches for late *Celery*, water the growing crops, and stir the soil among them. Prepare a patch of ground for the sowings of *Cabbages* to stand the winter: the soil should not be too rich, as it encourages a luxuriant growth, which is apt to make the plants tender. Plant out finally the strongest *Endive* from the early sowings, and sow more for late crops. The Small Green Curled is the best. Pull up the crops of winter *Onions*, place them in rows with the roots towards the sun, and frequently turn them until the stalks are withered; they will then be fit for storing. They should be carefully handled. Let them be very dry when stored, and spread out thinly, not laid in heaps. *Garlic* and *Shallots* should also be taken up and dried for storing. The lifting of *Potatoes* must be proceeded with as fast as they become ripe. The late-sown *Peas* should have attention paid to watering and staking. Sow, also, more Lettuce, and keep up a good succession of *Radishes* and *Salads*. Dredge the young *Turnips* and other seedling plants while damp, early in the morning with dry charcoal dust or wood ashes; also continue to keep a watchful eye on the caterpillars which infest the Cabbage tribe.

FRUIT GARDEN.

It may still be advisable to go over such trees as are overluxuriant, and stop about half the shoots, beginning, of course, with the strongest; for a general stopping at this time would probably be of little farther service than to induce the production of a mass of useless spray; whereas stopping the stronger shoots, or those which incline to grossness, will divert the sap into the weaker ones, which will be strengthened, while the buds on the shoots which have been stopped will become full and plump without starting into growth. The only effectual method, however, of curing a gross habit of growth when this is the case in ordinary seasons, is root-pruning, or keeping the roots within proper limits by means of shallow, well-drained borders. Should it be found that the shoots after stopping, incline to start into growth, it will be advisable as soon as the fruit is gathered, to open a trench at a moderate distance from the stem of the tree, cutting the stronger roots. This will be of the greatest service in checking growth, and will probably do more towards securing ripe wood than anything else that could be adopted. Early Pears should be gathered before they are quite ripe, by which their juiciness will be increased. Let Strawberry plantations intended to stand for next season be trimmed as soon as convenient, cutting off and clearing away the runners so as to afford the leaves plenty of room.

FLOWER GARDEN.

Decayed blooms should be removed from Roses, for if allowed to hang they have a very untidy appearance, and tend to encourage mildew. Roses, if in masses or beds, should be arranged so that their colours may be as much contrasted as possible; where this has not been hitherto attended to, the present arrangement should be carefully examined while the plants are in flower, and any alterations noted that may be considered necessary to render the effect more satisfactory next season. Proceed with the propagation of favourite sorts, either by means of budding or cuttings. Many prefer having Hybrid Perpetual, Tea, China, and Bourbon Roses on their own roots. Short-jointed cuttings taken off now will root freely if properly made and attended to under a hand-glass, provided the situation is somewhat warm and shaded. The readiest way of propagating them, however, is by means of cuttings taken off plants grown under glass for flowering in spring. If judiciously selected they will root almost as freely as Verbenas. In some neighbourhoods black fly is becoming troublesome on Dahlias and Asters. When such is the case tobacco water and soapsuds may be used with advantage. The strength of the mixture should be tested by dipping into it some of the shoots worst affected, and using it sufficiently strong to kill the insects, but not so much so as to injure the leaves. It should be applied in the evening when there is a prospect of a dry night, using a fine-rosed syringe or watering-pot, and giving enough to moisten the whole of the leaves. Go over beds of Verbenas frequently, and remedy any defects that may be perceptible without loss of time. When the stock is growing vigorously, pegging and training will involve considerable attention, and it will be necessary to inspect the beds frequently, removing decayed flowers and cutting back such of the shoots as may incline to encroach upon the edging of the beds. Keep herbaceous plants neatly tied-up, and cut off the flower stems of any becoming unsightly. Take advantage of any spare time to put in cuttings of choice plants. Keep gravel walks smooth and neat by weeding, sweeping, and rolling.

GREENHOUSE AND CONSERVATORY.

Now, when most kinds of hardwooded greenhouse plants are out of doors, painting and other repairs required by the houses in which they are grown should be done; for paint, to stand well, it should only be put on when the woodwork is thoroughly dry. Therefore, be sure that this is so before commencing. As already stated, it is now time to provide plants adapted for blooming late in autumn, and early in winter. Camellias, if forced into wood will be tolerably forward. They should be kept out of doors in a good place on coal ashes to prevent worms from deranging the drainage. Chrysanthemums should now or very soon receive their last shift, using chiefly, if possible, good fibrous loam with plenty of charcoal. This is the best way to keep them stiff in habit, and to preserve their lower leaves. Any necessary amount of strength may be imparted to them when the flower-buds are formed, by good liquid manure. Successions of Bragmansias, Clerodendrons, Euphorbias, Poinsettias, &c., should receive a last shift, in order that they may produce a rich display in the conservatory. Climbers on ornamental trellises should be occasionally cut back with the view of having a succession late in the season, when flowers become scarce. A batch of such plants as Thunbergias, Ipomœas, Jasmines, Stephanotis, and Passifloras, should be trained up ornamental trellises without delay. Clematis bicolor, and C. azurea grandiflora, force well early in spring, provided they are rested behind a shady wall for a month or two about this season. The latter plants, although perfectly hardy, are well adapted for conservatory trellises. The forward Achimenes will have produced abundance of suckers; these, taken off and encouraged in a propagating frame, will produce a very late display.

STOVE.

Those who desire success in this as well as most other departments of gardening where artificial heat is required, must look well to the stoke-hole department. The proper management of the fires is at least one-half the affair, especially as connected with smoke flues and other incomplete apparatus, which still exist in a majority of country gardens. The eastern Orchids will certainly not do without fire heat, even at this period. It is, therefore, considered the best policy to light the Orchid or stove fire about two o'clock, to burn a small lively

fire for three hours, and suffer the fire to die away by five o'clock, shutting up entirely for the night by six o'clock. At this hour the piping will possess warmth enough to insure a temperature of 65° or 70° throughout the night. This heat, with plenty of moisture sprinkled in the house, and slight syringings, will secure an atmosphere of a most genial character. —W. Keane.

DOINGS OF THE LAST WEEK.

The chief work of the week, besides the routine lately alluded to, has reference chiefly to surface-stirring the soil, mulching, and watering. The surface-stirring has been given where possible, to growing crops in all departments. It is astonishing how this alone helps plants, even though newly turned out, to resist the almost tropical sun which has come upon us at last. Excessive evaporation and the descent of heat is arrested by the loose surface. Even our flower beds—the few open spaces still to be seen—showed signs of cracking, especially round the sides of raised beds, to prevent which nothing is so good as keeping the surface open and loose with the hoe. Hoeing carefully among small edging plants often does more good than sprinkling them with water. Some of our best gardeners are using the water pail with great moderation out of doors. In deep good soil established plants can well hold their own, especially when the surface is kept loose.

Mulching is a great relief where a heated soil is of less importance than a moist one. Peas and Beans at midday seemed to show the effects of the sun and drooped their points a little; in such a case we could not expect the younger succession flowers to set and swell well. Even when watering could be given, it was followed either by hoeing or mulching; but generally with the latter, as the former is usually employed before watering, even if nothing better than litter or grass can be obtained. We have even mowed some outlying corners to have the long grass for this purpose, and all the short machinings from lawn, &c., have been taken to the kitchen garden instead of the rubbish or rotting heap, and placed at once among Peas, Cauliflower, &c. Even this requires a little care to pack about the stems and over the ground, but not over the plants. We find that a careless workman had allowed some to drop in the centres of strong Cauliflower plants, and had it not been seen and removed it would have stained and disfigured the coming fine heads. Thickish mulchings may safely be given to all plants as the heat in the soil is now quite sufficient for them. There is just this danger from a thickish mulching of grass cattings, &c., that after a shower or two, it becomes so close as almost to exclude air; and on a slope, the rains would run away to the lowest parts. This is easily avoided by breaking the surface of the mulching with a hoe or fork, when air and rain will have a free entrance, whilst the soil is kept moister and cooler than it would otherwise be.

In the flower garden we have mulched, as already stated, Calceolarias with rather fine hotbed manure, of dung and leaves fairly decomposed. We have done the same lately to Lobelias, Verbenas, Pentstemons, Roses, &c., but we have not yet done anything in that way to Scarlet Pelargoniums, as for them the soil is not too warm, or yet too dry where the plants are pretty well established. If this hot weather should not continue long, we would not mulch them at all, unless from extra free-blooming they should need a little extra help. We never knew them grow less after they were turned out, than they did this season; which was owing not so much to the cold mornings as to the coldness of the soil. The last ten days they have been picking up, growing vigorously, and opening their blooms fairly, but we do not like just yet to cool the soil by watering or mulching; in fact, when well established, Scarlet Geraniums planted out in deep-stirred soil need but little watering, and their own leaves act as a fair mulching, so far as keeping the sun heat from the ground. Extra free-blooming, however, is apt to exhaust the plants before the autumn is over, and to prevent that, and also avoid watering, except what the heavens give us, nothing is better than a little mulching of rotten dung. Remember that this surface-mulching and manuring has quite a different effect from digging it deep in the soil where the roots would at once take hold. The latter plan would encourage vigorous growth, even at the expense of thinner blooming; the former would tell chiefly in supporting medium-sized foliage and free-blooming.

Watering.—This is as usual becoming a serious affair, but we hope we shall not experience a repetition of the evils of last summer. A thunder-storm with a heavy rain, which we hope is not far off, would give us a good supply and replenish our failing resources. Even here it would be easy, with more tanks and reservoirs, to store just four times the quantity of rain water we do. Celery, Peas, and Beans have had what we could safely give them, and fine rows of Lettuces have been mulched to make a little liquid go a great way.

In the flower garden, the outside rows of raised beds have had a little, and the watering has been confined chiefly to them. We mentioned raising a lot of beds at the outsides with stakes about a foot above the lawn surface, and planting Sedums, Moss Saxifrage, and wild small-leaved Ivy to cover the stakes. Owing to the heat, some of the sides of the beds, as those planted with the Saxifrage, will scarcely be covered this season. Sedums have done their work very well. The raising of the outside of the beds has given us two advantages the machine goes readily round without touching any straggling shoot or plant; and the raising and thick planting at the outside prevents the birds scratching the soil all over the lawn near the beds. Though the staking is done neatly, we do not consider the stakes an ornament in themselves, and where we think they would not soon be covered, we have planted some temporary plants at their base, as Variegated Alyssum, lilac Asperula, &c., just to hide them neatly for the season. One other advantage of thus raising the outside of the beds and thus draping them with green is, that you have a green outside all the winter, and a good preparation made for spring and winter gardening, if that is deemed necessary. We have long had raised beds with the outsides densely covered with Ivy, and these gave us no extra trouble whatever in the way of watering, as the Ivy kept the outsides cool. *The Ivy, be it kept in mind, not planted in the bed, but at the base of the stakes outside.* On such beds established for many years, we had this season to place some new stakes to keep the Ivy in its place. In many cases it is now strong enough to keep itself in shape without stakes. In the case of the beds freshly done, when the stakes are covered with the Moss Saxifrage, &c., the outside edging close to the stakes inside the bed, will need no more watering than any other part of the bed. But where the stakes are not well covered, the ground next them inside will become drier, and we have run a little water round them outside to make up for the greater exposure, and stirred the surface shortly afterwards.

The Calceolarias were never more dense, not an inch of ground is to be seen for their heads of bloom, but to keep successions on we shall have to water in the beginning of the week, and our hitherto refraining has been owing to the mulching. Some of our finest beds are defective, from the deer having made havoc of edgings of purple and blue Heartsease. These did us good service, not only in the spring, but through the summer of last year, being, we believe the same colours and the kinds used at Cliveden, and which, with the moist, cool treatment given to Calceolarias generally, do well when fresh planted, for the whole summer. We have had them several times cut right into the ground, and other things almost untouched. Nothing was touched but these Heartsease, and some beds of Verbenas that had not a flower left on them. To make the Calceolarias right, we must have a blue or purple edging, and we have a nice lot of good plants in boxes, of Lobelia ramosa, which if well watered, will nestle up to and fringe the Calceolarias. This is a Lobelia not estimated as it deserves to be, with blue flowers large for the size of the plant. Mr. Hills, at The Poles, grows it in pots very much for spring and early summer decoration. We saw numbers in 4-inch pots a mass of dense beautiful blue.

As already mentioned, we will give little water as yet to the Geraniums out of doors, but will rather let them feel the heat, as the soil is not yet too warm for them. If the weather continues so hot, we will surface-stir again, water, and then mulch.

Such weather as this furnishes the best of all details about watering plants in pots. "How often should I water?" is the perplexing question often put to us. "Only just so often as the plant needs it," is the only right answer to give, "and then give enough to satisfy its wants." A plant must be treated as we would treat ourselves. When a man is thirsty a glass of pure coolish water is the greatest luxury; if not thirsty, forcing him to drink it would be a punishment. A plant may do without water for more than a week in wintor; once or twice a-week may be enough in cloudy weather in spring; but in such weather as this, plants in pots may need refreshing twice a-day, and that not a whit too much. Large plants in pots, if mulched, will need less watering, as that will prevent evaporation. All plants under glass should not only be watered,

but evaporation from them lessened by syringing the stages, and damping walls and floors with the syringe.

There are one or two things we would just notice resulting from this hot weather. In a recent visit to Luton Hoo, among much to gratify us, we were sorry to find that the largest bunch of Musa Cavendishii fruit we had ever seen, had been cut and used; but we were particularly pleased with two things, the house of Melons previously noticed had been used and fresh planted, and there were abundance of Melons in pits, heated and unheated. Perhaps the most gratifying was a fine lot of fruit in a low span-roofed pit, used generally in winter for Violets, and having no artificial heat besides a little dung below the soil. As the fruit was chiefly collected at the outsides, the mode of treatment and training had been much the same as we had frequently recommended. The next thing was, that though the excessive heat threatened to lessen the time of the Strawberry season, in ordinary circumstances, Mr. Cadger had been fortunate enough to turn out a lot of his huge forced plants of Keens' Seedling early in spring, we think in the end of February, and these in rather a cool, sheltered border, have shown and set in armfuls, so that with a little watering, the Strawberry season will be greatly prolonged.

One thing used to trouble us in visiting some places, and that was the bad condition of the walks, the sides being covered with young weeds, Daisies, &c., the result of leaving the grass next them too long, and thus permitting the walks to be seeded. All walks to be preserved neatly should have the grass kept short for a width of a scythe swathe. It will do wonders towards keeping walks clean. It will also aid much in dispensing with hoeing, raking, turning, or salting, the latter process though killing the weeds always has a tendency for making fine walks finer and softer. With rough walks salting will help to make them finer, and, therefore, more pleasant to the feet.

We may now mention a rather heavy piece of work with our *pleasure ground walks*. They are in fair order—hard and firm, but a few small weeds can be seen if you look well for them. We want them to be bright, fresh, and clean for the summer with but little trouble. We have, therefore, procured some loads of rather bright pit sand; we are sprinkling the walks all over with salt, and we shall then follow with a sprinkling of sand, which conceals the salt. This sprinkling will be a little loose before we have a good shower; but afterwards a brisk sweeping with a broom, and a run-over with a roller, makes all join together, and the walk looks neat and clean for the season. We could clear off the weeds from our firm walks by salting alone; but then if we did so, we know that until every particle of the salt was washed out, the surface of these walks would be soft and unpleasant in wet weather. By adding the fresh surfacing, or rather sprinkling of riddled sand, the salt acts upwards a little as well as downwards, but not sufficiently upwards to prevent the surface being clean and firm to the foot in moist weather. The evil of salting smooth walks without some such precaution, is that they become too smooth, and then soft in wet weather.

One word more respecting lawns. We have run the machine lightly over part of ours, but in other parts, where only a few Daisies, Bents, and Plantains appeared, we have preferred sweeping them off with the Daisy knife. Close and frequent cutting now in such sun, will greatly encourage scorching and burning; and we should rather avoid than encourage that result. The finest flower beds are a poor sight with a scorched and burned-up lawn around them.—R. F.

COVENT GARDEN MARKET.—July 21.

We have had some difficulty in maintaining last week's prices, as the supply has been much in excess of the demand. Forced fruit are very plentiful, and foreign importations heavy, comprising Pines, Peaches, Nectarines, Apricots, Cherries, and Jargonelle Pears. Potatoes good, and a ready sale at former quotations.

FRUIT.

	s.	d.	s.	d
Apples ..... ½ sieve	2	0	to 0	0
Apricots ..... doz.	2	0	3	0
Cherries ..... lb.	0	6	1	0
Chestnuts .... bushel	0	0	0	0
Currants .... ½ sieve	4	0	4	6
Black ..... do.	5	0	6	0
Figs ..... doz.	6	0	10	0
Filberts ..... lb.	0	0	0	0
Cobs ..... lb.	1	0	1	6
Gooseberries .. quart	0	3	0	6
Grapes, Hothouse . lb.	2	0	5	0
Lemons 100	10	0	14	0
Melons ..... each	2	0	to 5	0
Nectarines ..... doz.	6	0	10	0
Oranges 100	10	0	14	0
Peaches ..... doz.	12	0	24	0
Pears (dessert) .. doz.	0	0	0	0
Pine Apples ..... lb.	3	0	6	0
Plums ..... ½ sieve	0	0	0	0
Quinces ..... doz.	0	0	0	0
Raspberries ..... lb.	0	6	0	8
Strawberries .... lb.	1	0	2	0
Walnuts ..... bushel	10	0	16	0
do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0
Asparagus 100	3	0	6	0
Beans, Kidney .. 100	1	0	0	0
Beet, Red ..... doz.	3	0	5	0
Broccoli ..... bundle	0	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0
Cabbage ..... doz.	1	0	2	0
Capsicums 100	0	0	0	0
Carrots ..... bunch	0	3	1	0
Cauliflower ..... doz.	3	0	6	0
Celery ..... bundle	1	6	2	0
Cucumbers .... each	0	6	1	6
Endive ..... doz.	2	0	0	0
Fennel ..... bunch	0	3	0	0
Garlic ..... lb.	0	3	0	0
Herbs ..... bunch	0	3	0	0
Horseradish .. bundle	3	0	5	0
Leeks ..... bunch	0	4	to 0	6
Lettuce ..... score	1	0	1	6
Mushrooms .... pottle	3	0	4	0
Mustd. & Cress, punnet	0	2	0	3
Onions .. doz. bunches	6	0	0	0
Parsley ..... sieve	3	0	0	0
Parsnips ..... doz.	0	9	1	0
Peas ..... quart	0	6	1	6
Potatoes ..... bushel	4	6	6	0
Kidney .... ditto	4	0	7	6
Radishes doz. bunches	1	0	0	0
Rhubarb ..... bundle	0	4	0	0
Shallots ..... lb.	0	0	1	0
Spinach ..... bushel	2	0	3	0
Tomatoes ..... doz.	2	0	3	0
Turnips ..... bunch	0	8	1	0
Veget. Marrow .. doz.	1	0	2	0

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books (*J. C. Paterson*).—We purpose continuing the work until all our native plants have been portrayed and described. We are unable to publish more than four monthly: if we could have done so the work would by this time have been complete. (*W. G. C.*—Keane's "In-door Gardening" may suit you. It can be had from our office if you enclose twenty stamps, with your address. (*J. Booth*.—"In-door Gardening" as above; and "The Garden Manual" the latter free by post for twenty postage stamps.

Dark Climbing Roses (*J. C. Lower*).—"I have no doubt that the Rose you describe is the old Tuscany. It has a single row of petals with golden stamens, and is very nearly black or blackish maroon. It flowers only once in the season. The blooms are most abundant, and very beautiful. There was a noble tree of it at Rushton. Doubtless, our very dark Roses are derived from it. Buy these, and they will please you—Prince Camille de Rohan, Empereur de Maroc and Souvenir de Dr. Jamain. They are Hybrid Perpetuals. They are all very dark, abundant bloomers, and very beautiful. Put them against your south or south-east wall, and when winter sets in with severity, place matting over them till danger is over.—W. F. Radclyffe."

Sowing Verbena Seed (*Idem*).—To have good strong plants for blooming early next year, you may sow the seed now. Well drain a seed-pan, and fill it to three-fourths its depth with two-thirds turfy light loam and one-third leaf mould, then to the rim or nearly so, with the same soil sifted, adding one-sixth part of silver sand. Level the surface by pressing it with the bottom of a small flower-pot, and scatter the seeds evenly, just covering them with fine soil. Give a gentle watering, place the pan in a cold frame or under a hand-glass, and shade from bright sun. Keep moist and close until the young plants appear, then admit a little air, increasing the amount with the advance in growth of the plants. When these are large enough to handle, they may be pricked-off in pans at about 1½ to 2 inches apart, and kept rather close and shaded for a few days until established. Harden them well off, protecting them only from frost and heavy rains, and giving all the air possible; before severe weather sets in remove them to a shelf or light airy position in the greenhouse. In February or March the plants may be shortened to 2 or 3 inches, and cuttings made of the parts removed, which will strike freely in a mild hotbed. When the plants have made fresh shoots an inch long, they ought to be potted off singly, or placed 3 inches apart in pans, and shaded until established; then harden them off and remove them to a cold frame, protecting them from frost by a covering of mats. You may obtain one or more lots of cuttings from them, and these with the old plants will be fit for planting out in May. Seedling Verbenas are of little use for bedding except in mixed beds. The seed may be sown in March, and the plants from that sowing will be large enough for planting out at the end of May.

Gladiolus Blooming (*An Amateur*).—The only way of securing long spikes is to grow the bulbs in rich soil, give top-dressings of rich compost, and supply well with water, syringing overhead every evening in hot weather so as to keep down red spider, and promote vigorous growth. A long loose spike is undesirable.

Dahlias Flowering (*Idem*).—In the first place the plants should have a single shoot only, and it should be secured to a stout stake driven firmly into the ground. The side shoots as they appear should be regulated, thinning out the weak, and preserving enough of the strong to form a sufficiently compact but open head. The side shoots must be secured to the principal stake with long shreds of matting, so as to permit of their assuming the branching habit peculiar to them. If the tying is not sufficient to secure them against winds, it will be necessary to place three or four stakes besides the centre one, and though the stems are tolerably close to it at the bottom, the tops must incline outwards sufficiently to allow of the side shoots being kept secure from heavy rains or wind. The pruning should be confined to thinning out the weak shoots, and preserving a head of healthy shoots. The first blooms, as a rule, are not very good: you may cut them away, and also any that are not of good form in the bud. The best liquid manure is a peck of sheep's droppings and a peck of soot to thirty gallons of water, well stirred up and dissolved. It may be applied twice a-week, stirring well up each time. Guano at the rate of 2 ozs. to the gallon also forms a good liquid manure.

Liquid Manure (*A. Lockyer*).—To Cabbages and similar crops you may safely use it once a-week, at the rate of 1 oz. to the gallon of water. For other plants you may use double the quantity that you would do of guano. The drainings of rabbit hutches make an excellent liquid manure diluted with water or absorbed by sawdust. The amount of water added would depend on the kind of plant to which the manure is to be applied, and the amount of solid matter along with the urine. The letters used indicate commended, highly commended, very highly commended.

Scaring Birds (*Somerset*).—Suspending pieces of glass from sticks to

frighten birds by their jingling has been practised in cottage gardens as long as we can recollect.

Vicomtesse Héricart de Thury Strawberry (*Constant Reader; C. Wade*).—We cannot recommend dealers. As we knew of more than one nurseryman who has the variety, to single out one would be unfair to the others. Those who have the variety should consult their interests by advertising the fact.

Strawberry Plants (*J. G. Pearson*).—We cannot recommend tradesmen. Any of the principal nurserymen who advertise in our Journal could supply you.

Blind Strawberry Blossoms (*K. K.*).—We are at a loss to know whether you mean blossoms in which the organs of fructification are entirely wanting, or those in which they have been destroyed or proved inefficient. The first is of comparatively rare occurrence in this country. It is sometimes caused through weakness, and sometimes by defective constitution; such plants ought to be discarded. The other is owing to climatal or atmospheric influences, by which the parts have been injured or prevented from performing their functions. The Vicomtesse Héricart de Thury Strawberry will in our opinion suit your soil and locality well. We agree with our correspondent.

Glass over a Vine (*J. R. P.*).—We approve of your proposed plan, but we would recommend the rafter sashbars being from 12 to 15 inches apart, and the rods should be suspended from the rafters, so as to be 12 to 15 inches from the glass.

Grapes Decaying (*J. S. Lightbounds*).—They are severely affected with the "spot," as gardeners name the ulceration. The roots, probably, do not supply sufficient sap. Plunge the pots in the soil down to their rims, and water with tepid weak liquid manure.

Vine Border—Strawberry Plants (*T. W. R. C.*).—Mulch the Vine border at once—you should give it a good soaking with water before putting on the mulch. Peg the runners into small pots. When well rooted you may separate them from the parent plants and put them into a cold frame as you propose.

Vine Leaves Insect-Infested and Diseased (*J. H. C.*).—The small leaf is rusted—an evil mostly produced by too much heat, followed by a sudden reduction of temperature; and the rust has been followed by mildew, which you may destroy by dusting them with flowers of sulphur. The large leaf is mildewed, and all in a similar state should be dusted with flowers of sulphur. On the large leaf there are besides traces of thrips, which you must destroy by fumigating with tobacco when the foliage is dry, shutting the house up closely, and on a calm evening densely filling it with smoke. The fumigation should be repeated the next night but one, and during the day keep the atmosphere moist, and as close as the state of the weather will permit. In the following day give a thorough syringing, and, whilst the leaves are wet, dust them with flowers of sulphur; the following evening, heat the pipes or flues to 168°, shut up the house, and coat them with sulphur brought to the consistency of thin paint by a solution of soft soap at the rate of 2 ozs. to the gallon of water, using a brush, and going over them twice or thrice so as to thoroughly fill the atmosphere with sulphur fumes. This will destroy the red spider, or reduce it considerably, and you may by heating the pipes cause the sulphurous fumes to be given off, which will keep the red spider under. There are evidences of thrips, red spider, and mildew on the leaves sent; it is a bad case, but not so bad as one we saw lately where there were thrips, red spider, mildew, and mealy bug, not a bunch in more than one large house, being fit for table. If the thrips reappear repeat the fumigation.

Cucumbers for Early and Main Crop (*Idem*). — You do not say whether you require them for house or framework. If for house, Telegraph is the best winter sort that we have grown, and Dickson's All the Year Round is a good companion. For frames the first named or either of them, and Newton Hero, or if you want one for exhibition Dale's Conqueror.

Arum Repotting (*Young*).—It is now a good time to divide and repot, keeping rather moist and shaded from bright sun for a few days. A compost of two-thirds turfy loam, and one-third leaf mould will grow them well, adding sand liberally. The Clover is merely a dark-leaved Suckling Clover (Trifolium minus) one of the best sorts for lawns, as it withstands drought well.

Tank Heating (*C. R. C. Vigurs*).—Why not continue the tank in the cast house the same as in the west house? You would require to do so—that is, have more heat, if you wished early Cucumbers and Melons; but merely for summer Cucumbers and winter vegetables the heat will be quite sufficient without the help of a flue, as you have in the western house. You will not gain so much by continuous heat from a tank over hot water as you may imagine; but if slate is cheap that is a consideration, and if so, you might have the sides of slate as well as top and bottom. The size of the tank in two divisions, 3 feet wide, will be ample; and so would 6 inches in depth, or even less, as the deeper the tank the colder will the water be at the bottom, however warm it may be at the top. In either house, to prevent damp from the tank, it should be fixed secure on the top with red or white lead, which is better than cement. Three feet would be too far from the glass for Lettuces, &c., in winter. 18 inches would be better, but the first will do if you give plenty of ventilation. We have had fine Lettuces farther from the glass. The same remark applies to Cucumbers and Melons, but in their case, after planting them out, you could train them to a stem and then on a trellis 16 inches from the glass. A few bits of wire, or even a few pieces of wood and string, would make a good trellis. We depend most on the flue for heating the greenhouse. The tank covered with earth banks, will be of little benefit in heating the house, as only one side next the path will be exposed, and thus give out heat to the house. This will answer well enough with you in Cornwall, where you have no frost to speak of; but if you should want more heat in the atmosphere of the house, you could easily have it by placing 6 inches of open rubble over your tank and then the earth, or rather we should use gravel and sand for setting the pots on. We would have pipes, say 2 or 3 inches in diameter, rising from near the slate, through earth or sand, both ends open, the upper one plugged, and by moving this plug we could let heat out as we wished, and either a damp or a dry heat at will. We would like this house the best for early Cucumbers and even Melons, and with the flue in front there would be an abundance of heat. You are quite right as to the advantage of such an earth or sand platform over wooden shelves, for they retain moisture, and make the plants more independent of the water-pail. Many plants, as Fuchsias and Scarlet Pelargoniums, do exceedingly well on such earth platforms; but the finer kinds of fancy and florists' Pelargoniums do better on wooden shelves than on anything else, except slate. When standing on a damp bottom they are apt to be troubled with spot and discoloured leaves. What we have stated as to the open rubble over the tank, is of importance when you do not merely set plants on the earth or other covering, but grow them in it, as with a close cover to the tank, as there ought to be, the soil becomes too dry, and with the rubble and pipes referred to it is always easy to have moisture beneath without directly communicating with the tank. It is a fact that many are slow to believe, that a close-covered slate tank gives out as dry a heat as iron pipes.

Pine Scale (*Robin Rove*).—You are quite right. When plants are very much infested the best plan is to burn the whole. The scale is very difficult to eradicate when the roots are infested. If the leaves only are infested continued applications of warm soap water will clear them, especially if you daub everyone that appears with gum arabic or glue water, just strong enough to stick on them. All the recipes are good when persevered in, and everybody likes their own the best. If the scale (the shell of the mother, beneath which the almost imperceptible young ones are brought to maturity), is on the roots, they must be disrooted and washed. We like simple methods, and have found nothing better than soft soap water, say 1 lb. of soap to sixteen gallons, well dissolved and cleared a little, and the plants turned into it in a tub at a temperature of 110°, kept there for half an hour, and then roots, stems, and leaves washed. When the roots were but little affected, we have found no better and simpler remedy than rank horse dung. We have let the steam in from the linings; but we prefer in such a pit as yours to set the plants closer, and put half a dozen barrowfuls of fresh horse droppings in a place, and provided no Pine plants are very near, let the fumes escape all over the house, shutting up early, making plenty of steam from watering floors, walls, pipes, and turning the dung over when you shut up. If you can scarcely see your finger before you, all the better. If the heat rises in such a damp ammoniacal vapour to from 95° to 100°, no harm will be done. Hardly an insect will stand such treatment, and no growing plant that we know of will stand it except the Pine Apple. With such doses repeated, and dislodging, or rather covering every one that appeared with size water, we have cleaned very dirty plants, but with labour and trouble. The advantage of the dung or the ammoniacal fumes is, that it penetrates all the crevices of the house, and thus saves washing. When using such fumes and steam the houses should be shaded during the day instead of giving much or any air. We would not scruple in such a vapour bath to let the houses in the shade rise to from 95° to 100°. You might try on a small scale what such fumes would do by pouring some muriate of ammonia or quicklime in a confined place, but we like the fresh stable dung.

Custard Apple (*G. H.*).—The Vegetable Marrow you have sent must have come from a seed accidentally mixed in the soil. It could not have been produced from a seed of the Anona, or Custard Apple.

Yellow Bedding Flowers (*C. H.*).—Besides Calceolarias, the Tagetes tenuifolia and dwarf yellow Marigolds are good for bedding, but the best substitutes for the Calceolaria are the Yellow and Tricolor Pelargoniums. If you give yourself a little trouble in disleafing, yellow Nasturtiums of the dwarf Tom Thumb kinds make brilliant beds. To secure a fine display, all extra foliage must be picked off, and all faded blooms and seeding prevented. If you can commend water and rich top-dressing, yellow Pansies, as the Cliveden Yellow, keep fine all the season, but they will become poor without that attention.

Gas-heating (*T. L.*).—Before you do anything with heating with gas, read what was said on the subject, and notice the figures given in illustration, in our No. 341. Gas is chiefly useful for small houses, and in every case the products from the burnt gas must have a tube for their escape into the open air. Argand burners decompose the gas most thoroughly.

Orchids for a Greenhouse (*F. G.*).—Orchids cannot well be grown under bell-glasses, as the atmosphere is too close; but these, especially if made with moveable tops, would be of service when the plants are making new growths. The glasses would only be required from the time of the plants commencing to grow until attaining their full development, when they should be removed. Whilst over the plants, they should be taken off twice a-day and wiped dry, and take care to admit air, so as to have the foliage dry at least once in a day. Orchids cannot endure a still, stifling atmosphere, but like air in constant but gentle motion, and the only advantage of bell-glasses would be, that you could give the Orchid the moisture necessary to a free growth without making the whole atmosphere too moist for the other occupants of the greenhouse. The following would succeed in a greenhouse with or without bell-glasses:—*Acropera Loddigesi, Angulea Clowesi, A. uniflora superba, Barkeria elegans, B. Skinneri, Brassia verrucosa, *Calanthe vestita lutea, *Cœlogyne cristata, C. maculata, C. lagenaria, C. præcox, Cymbidium aloifolium, Cypripedium insigne, *C. venustum, Epidendrum vitellinum, *Leptotes bicolor, *Lycaste cruenta, *L. Skinneri vars., *Maxillaria Harrisoniæ, Odontoglossum *Alexandræ, bicteniense, citrosmum, cristatum, Dawsonianum, gloriosum, *grande, Insleayi, *maculatum, nebulosum, *O. Pescatorei, O. pulchellum, Oncidium cornigerum, O. divaricatum, *O. sphacelatum. Disa grandiflora would not thrive under a bell-glass, as it requires as much air as a mountain Daisy. Those marked with an asterisk would be most likely to succeed under the hand-glass treatment.

Wistaria Shoots Dying (*S. A. C.*).—We are unable to account for the shoots dying, but think it mainly due to a want of proper moisture, as we find a few good waterings in spring and early summer prevent the dying away of the young shoots to a great extent. Holes should be made with a crowbar a foot deep or more, and the holes repeatedly filled with water; when the soil has been well moistened, fill up the holes with fine soil.

Destroying Beetles (*Lucas*).—They may be poisoned by placing phosphorus paste on thin slices of bread, or on strips of paper, near their haunts; but you must be careful to keep it from the reach of domestic animals and birds. A hedgehog is an effective but despised natural destroyer of such pests. They do no harm, and destroy great numbers of garden vermin.

Plants and Climbers for Conservatory (*Miss W.*).—For the centre bed we should advise Camellias, interspersed among the Aloes and Dracænas, to take away their stiffness. If we understand your question rightly, you wish to know what plants and climbers would be suitable for

covering the roof and walls. For the walls, Cestrum aurantiacum and Luculia gratissima; for the pillars, Mimosa prostrata, Plumbago capensis, Habrothamnus elegans, Abelia, and magnificus; for the roof, Tacsonia Van-Volxemii, Sollya heterophylla, Passiflora Newmanni, Lapageria rosea, Mandevilla suaveolens, Bignonia jasminoides splendida.

Insects (*W. E. B.*).—They are the larvæ of one of the Lady-birds (Coccinella), and destroy the aphides on plants as effectually as do their parents. Of course they have nothing to do with the Potato tops dying.

Names of Plants (*Nora*).—Briza maxima. Commonly grown in gardens. Propagate by seeds. (*Beatrice*).—Cardamine hirsuta. (*M. E. Crosby*).—Cyrtomium falcatum; 3, Spiræa aruncifolia. (*T. Brooks*).—Saxifraga herbacea. (*W. C. H.*).—3, Spiræa Douglasii.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 20th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 14	30.229	30.167	78	51	64	61	S.W.	.00	Very fine; exceedingly fine; cloudy at night.
Thurs. 15	30.197	30.142	82	51	64	61	N.W.	.00	Overcast; very fine; clear and fine.
Fri.... 16	30.115	30.050	86	55	68	61	N.W.	.00	Exceedingly fine; overcast; clear and fine.
Sat.... 17	30.098	30.052	90	55	70	63	N E.	.00	Clear and fine; slightly overcast; densely overcast.
Sun... 18	30.014	29.949	90	56	69	63	S.W.	.00	Very fine; cloudy but fine; very hot; overcast.
Mon.. 19	30.168	29.973	75	55	70	65	S.E.	.00	Overcast; densely overcast; slightly overcast.
Tues.. 20	30.116	30.081	71	46	65	63	E.	00	Densely overcast; hazy; clear and fine.
Mean..	30.132	30.059	78.85	52.71	67.14	62.43	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

MUTILATION OF FOWLS.

I am exceedingly sorry to see by your paper, one of Mr. Entwisle's Bantams shown at Ipswich returned home minus its sickle feathers. Permit me to say, I also received a note from Mr. E. informing me of the injury, and also that Mr. Adams asked him to telegraph the price of the birds; so, perhaps, you will allow me in fairness to Mr. Adams to state that he was not in the Exhibition at the time of packing, and further, those birds were packed by gentlemen of unimpeachable standing. I can answer for their feathers being intact when they were packed as when they arrived. I regret not being able to throw any light on the affair, as no person would be more ready to expose an injury to poultry at exhibitions than your correspondent.—W. B. Jeffries, *Hon. Sec. of the Ipswich Poultry Society.*

BISHOP AUCKLAND POULTRY SHOW.

The first Show of Poultry, Pigeons, Rabbits, and Cage Birds, was held here on the 17th inst., under most favorable circumstances. The birds were provided with an excellent tent, Turner's pens were used, and altogether the management was of the highest character. Considering this is the first attempt, it promises well for future exhibitions.

In the class where a special prize was offered for "Any variety" of poultry, the pen of cock and two hens to be placed at the disposal of the Committee, at 21*s.* the pen, *Brahmas* of good quality were in the fore, but the class as a whole was very poor. *Game*, Black and other Reds, were not of high merit, but the first-prize pen of Duckwings were excellent. *Spanish* were also good and in prime condition; but for quality the *Dorkings*, as a class, stood highest, every pen being noticed. *Brahma Pootras* were moderate, and in *Cochins* there were some capital birds, notably so in the first-prize pen. In *Polands* and the *Hamburghs* generally, it would be almost impossible to find more superior birds than the winners; and the first-prize *Houdans* in the Variety class were faultless. *Game Bantams* were large in entries, though only moderate in quality. Bantams, any other kind, if we except the Pekins in the first-prize pen, were not worthy of notice.

Ducks were not good, except the first-prize wild; but the *Goslings* and *Geese* were both very large and good.

Pigeons were not a good collection, though there was here and there a moderate pair.

Rabbits were of the mongrel variety.

Most of the *Cage Birds* were low in condition and out of feather, but otherwise good; the most noteworthy were the first-prize Belgian cock, an excellent Silver Lizard, and, best of all, an evenly-marked Goldfinch Mule.

Any Variety.—1, H. Beldon, Goitstock, Bingley. *hc*, Rev. J. G. Milner, Bellerby, near Leyburn (French). *c*, J. Shorthose, Newcastle-on-Tyne (Brahma); C. K. Smith, Langley Grove, Durham.

Game (Black-breasted and other Reds).—1, J. Gibson, Stanhope. 2, W. & A. Boglass, Carville, Durham. *hc*, W. Bearpark, Ainderby, Northallerton. *c*, G. Braithwaite, Towlaw; W. Bearpark.

Game (Any other variety)—1, W. Bearpark. 2, J. Potts, Sunnyside, Towlaw. *c*, J. Robson, Bishop Auckland; W. & A. Englass.

Spanish—1, H. Beldon. 2, W. Bearpark. *c*, R. Wall, East Layton; F. Ridley, New Shildon.

Dorkings.—1 and *hc*, J. White, Warlaby, Northallerton. 2, W. Bearpark. *vhc*, J. F. Proud, Bishop Auckland. *c*, J. Shorthose; W. Bearpark.

Brahma Pootra—1, G. Richmond, Dalton. 2, J. Shorthose. *c*, R. Moore, Hetton-le-Hole.

Cochin-China.—1, J. Shorthose. 2, W. Barnes, Ingramgate, Thirsk. *hc*, G. H. Proctor, Durham.

Polands.—1 and 2, H. Beldon. *hc*, W. Bearpark. *c*, Miss A. Newton, Welsingham.

Hamburghs (Gold and Silver-spangled).—1 and 2, H. Beldon. *hc*, W. Bearpark. *c*, R. Moor.

Hamburghs (Gold and Silver-pencilled).—1 and 2, H. Beldon. *hc* and *c*, W. Bearpark.

Any other Variety.—1, Rev. J. G. Milner (French). 2, H. Beldon. (Black Hamburghs). *hc*, R. Moor. *c*, Rev. J. G. Milner (French); F. Jefferson.

Game Bantams.—1, W. Balmbridge, Stanhope. 2, W. & A. Boglass. *vhc*, T. Sanderson, Stanhope. *hc*, H. Pickering, Towlaw. *c*, J. Wilkinson, Towlaw.

Any other Variety.—1, H. Beldon. 2, W. Bearpark.

Ducks (Aylesbury).—1, J. Shorthose. 2, R. Moore.

Any other Variety.—1 and 2, Rev. J. G. Milner (Wild). *c*, J. F. Proud.

Turkeys.—1, W. Smith, Bondgate, Bishop Auckland.

Geese.—1, H. Marshall, Durham.

Rabbits (Any variety).—1, T. Blacklock. 2, R. Balmer.

PIGEONS.

Carriers.—1, H. Yardley, Birmingham.

Pouters.—1, W. Bearpark. 2, H. Yardley. *hc*, W. & A. Englass; T. Coundon, East Sunderland.

Tumblers.—', H. Yardley. 2, T. Coundon. *hc*, W. & A. Boglass.

Trumpeters.—1, W. & A. Bug'ass. 2, J. Kitching, Etherley (Mottled). *c*, J. Kitching (Black).

Fantails.—1, H. Yardley. 2, J. F. Proud. *c*, J. Kitching.

Jacobins.—1, T. W. Kilburn, Bishop Auckland. 2, W. Bearpark.

Nuns.—1, W. Bearpark. 2, T. W. Kilburn. *c*, H. Yardley; J. F. Proud.

Any other Variety.—1, H. Yardley. 2, T. W. Kilburn. *hc*, W. & A. Englass (Turbits). *c*, W. Bearpark.

Cage Birds.—*Canary* (Belgian).—1 and 2, J. Douglas, Stanhope. *hc*, J. Dixon, jun., Shildon. *Canary* (Lizard).—1, L. Whensley. *Canary* (Mealy).—1, W. Davies. *Any other Variety*.—1, T. Adamson. *c*, J. Dunn, Shildon. *English Song Bird* (Any variety).—1, G. Smurthwaite, Bishop Auckland. 2, J. Garry, Bondgate, Bishop Auckland. *Parrots* (Any variety).—1, J. Garry, Bishop Auckland. 2, J. Priestman, Bishop Auckland.

Judge of Poultry, Pigeons, Rabbits, Cage Birds, and Eggs, Mr. E. Hutton, Pudsey, Leeds.

NOTES ON FANCY PIGEONS—No. 14.

SHORT-FACED TUMBLERS.

The origin of these beautiful birds may be easily traced. The common Tumblers would occasionally throw better-shaped birds—birds having shorter beaks, rounder heads, fuller chests, and more "petite."

Fanciers with an eye for Pigeon-beauty would carefully preserve such, would match them together, or seek matches among their friends. Then markings and colours remarkable for regularity or brilliancy would appear, and these birds would also be mated. Hence, the eye of fanciers would be pleased, and struggles made by ardent Pigeon-lovers to produce birds of surpassing beauty in shape and colour. I am inclined to think that Tumbler fancy took a rapid spurt about a hundred years ago. Thus, Pouters were all-in-all to the fancier in A.D., 1735, and a full and excellent account of them is given in Moore's work of that date—which is good now, though it has lived more than its century—while he only mentions one kind of Short-faced Tumblers, the Almond, and of that he speaks in only a few lines—not as much as he gives about the Capuchin, and about as much as he devotes to the Narrow-tailed Shaker, two utterly worthless birds, while concerning other and now most beautiful short-faced birds, he says not one word. I do not think this silence is because Moore was not a Tumbler fancier, for his eyes observed everything, and his faithful and accurate pen omitted nothing. But mark the spurt made in thirty years. In "The Treatise" of 1765 there is a full account of

the Almond Tumbler, and the writer gives an account also of the Black-mottled Tumblers. Then came soon after Daniel Girton, and he gives four pages and a half to the Almond and other short faces, mentioning even Yellow Mottles. Then, next follows Windus, in 1802, who speaks of the Kites by name. But one thing is certain, both from the written accounts in "The Treatise." Girton and Windus, and also by the engravings, that short-faced birds had but comparatively short faces, and were as nothing to the beauties we now see. This induces me to make another remark. Sometimes we hear an expression that fancy Pigeons are not now as good as in former years. This is said either by old fanciers who have given up the fancy, or by fanciers who only judge from what they see in their own neighbourheeds.

Now, I am bound to say, having seen the best Pigeons that England, Scotland, and Ireland can show, that thirty years ago, or even twenty years ago, there were not so many good birds as now. That, as in other things, there have been improvements and advance, so in fancy Pigeons. The Peristeronic and Glasgow Shows tell us plainly that the birds and the fanciers are both higher-class than in former years.

First stands among the short faces, and ever will stand, the beautiful Almond. I may call it a choice specimen of feather and form, beauty untrained, and leaden must that eye be which can see no beauty in the shape or plumage of the little Almond. From dainty head to dainty little foot it is a lovely bird, a little gem.

But just as lovers equally admiring a fair one may differ as to their estimate of her various charms, and warmly dispute, so, alas! do Almond fanciers. As of the lady, one lover says, "Oh! it is her retrousé nose and finely rounded little head that I think so much of." Another says, "Pooh! nonsense, it is her figure that I admire; you admire a little part, I the whole." While a third may say, "You are both wrong, it is her dress which I think perfection." Just exactly so of the Almond fair one. One class is all for head and nose (beak); a second for form; a third for feather.

Now, as who is to decide when doctors differ, so, only much more, who is to decide when Pigeon fanciers differ? Please, good enthusiasts, do not throw stones either at me or each other.

It is clear that the oldest fanciers put feather first. Thus, in "The Treatise" on the Almond Tumbler, supposed to be written by Windus, and published in 1802. In this, the very first book written on the subject, the writer says in the very first page, "The first thing that strikes the eye on looking at the Almond Tumbler in the area is, the feather, or, perhaps, the shape may strike some, if that should happen to be very good; but as *I think feather ought to have the preference*, I will take that first." The President of the Peristeronic, Mr. Esquilant, also, so I believe, places feather first; and in confirmation of this view, which I own is mine, this of giving preference to the whole bird rather than merely a part—*i.e.*, head and beak, I have the pleasure of quoting the following remarks of a very able Glasgow fancier, who writes to me thus —"In Almonds, Mottles, Baldheads, and Beards, feather is the *first* point; for instance, an Almond cannot be so called unless it is of *almond feather*. The face may be ever so short, but without feather it is not an Almond. So I hold feather to be the first property. If a standard bird showing all the colours in each feather on flight and tail, and otherwise well marked on the body, then we have the *perfect* Almond. In *this* bird head and beak come second; if perfect in those, then we have a standard Short-faced Almond Tumbler.

"In the other three varieties of Tumblers, feather though it must be, is not of so much importance—they may be slightly foul, or not clean cut; and Mottles are seldom seen perfectly marked (mottled on the shoulders only). Head and beak is, perhaps, of more importance in them; still we must say to have a perfect Short-faced Baldhead, the face must not only be perfect, head and beak, but also the feather. The Baldhead must have a white head; if only half white, then he is not a Baldhead. I do not lay down the law, only I give my opinion."

No one deserving the name of a Pigeon-fancier but must be interested in the welfare of the Almond Tumbler, as for a hundred years or more it has been the prime pet and hobby of the London fanciers. A small bird, it needs but little room, and never wants to fly: hence in a small aviary or garret it can be enjoyed and cultivated to perfection. The other Short-faced Tumblers, whether Kites, Mottles, Balds, or Beards, are the near relatives of the Almond, and are very interesting. Perhaps the most beautiful—yet who is to venture to dogmatise among so many and such beauties?—is the Black Mottle. Those who were fortunate enough to be at the last Glasgow Show, will remember the pair exhibited by Mr. Fulton, and will agree with me that nothing in bird form could be more lovely.

The whole range of Short-faces are most interesting as pets, and have a hold on a fancier for life if he once keeps them. In them is no sameness, but an infinite variety of feather.

I trust that this article may lead fanciers to write more about these lovely pets.—Wiltshire Rector.

ENTHRONING A LIGURIAN QUEEN.

The arrival of an Italian queen without previous notice surprised me, for I was not in the least prepared for her coming, although I had for some time desired news of her. What was worse, she came on the morning of our annual village festival, when little attention could be paid to royalty even. At all hazards, then, I was compelled to consign her majesty to the cold and shade of the pantry for twenty-four hours, after placing a piece of honeycomb in the box. I then extemporised a queen cage of perforated zinc, about 4 inches square, and the same thickness as ordinary brood comb, into which I contrived to get the queen with her threescore of courtiers. Under the protection of this cage she was at once placed in a nucleus box with three brood combs from the nearest hive. These combs were well examined previously, and a little shaken in order to remove the greater portion of the adult bees. The box was then closed until towards evening, when a number of bees were found clinging to the outside of the cage, but with no very manifest symptoms of an attempt at regicide. Later still the bees ran in and out of the hive and touched each other, as is their wont when they miss their queen.

Next morning I determined to set the queen at liberty; but before doing so I gave the bees a little smoke, and poured some syrup over the combs. For the next two hours there was war, but I was unable to tell whether the invaders or invaded led on the attack; if the former, they were plucky, to say the least. You will be aware that I was sufficiently anxious for the safety of the queen; but at mid-day my eyes were gladdened by the sight of her walking over the combs, as if she had been resident all her life. As this is my first attempt to introduce a foreign queen, you will not wonder when I tell you that the apiary resounded with a shout enough to alarm a nervous queen. I trust she is now safe after all her wanderings by sea and land. —Clericus, *Cumberland*.

THE INTRODUCTION AND PROPAGATION OF LIGURIANS.

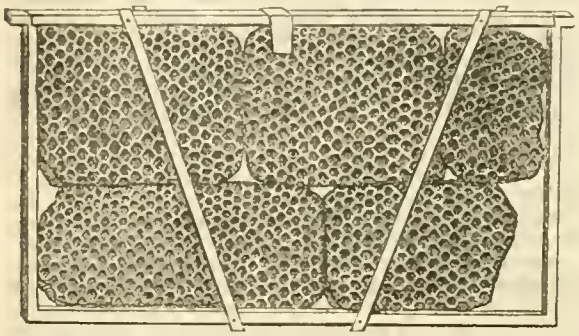
In responding to the appeal made by "T. B. H.," in page 384, of the last volume of "our Journal," I feel that I shall be compelled to trespass, in some measure, on the patience of older apiarian readers, by repeating much which has already appeared. It will, however, be evident to all, that among the constituency of a popular and advancing periodical, there must be a large and ever-increasing body of new readers, who are unable to refer to former volumes. This is especially the case in regard to the subject of the present article, and "T. B. H." is but the representative of a numerous class who urgently demand that, as the numbers containing the information which they desire are out of print, information shall be repeated for their benefit. With this demand I now propose to comply, hoping by the addition of such hints and further information as may be suggested by more recent and enlarged experience so to season my *rechauffé*, as to render it not altogether unpalatable to more advanced readers.

The first step towards the introduction and propagation of Ligurians, is, of course, the obtaining a pure stock of bees, or, at any rate, one or more pure queens; and as the purity of the original queen or queens is of such essential importance, that, unless it is secure, all future proceedings must end in disappointment, no precaution should be neglected in endeavouring to attain this end. I should, therefore, advise no one to purchase Ligurian stocks or queens of which the vendor will not guarantee their purity, whilst it is of at least equal importance to deal only with those whose known character and standing among apiarians are such as to give weight to their guarantee.

In the first place, then, I presume that no one will attempt

the introduction and propagation of Ligurians unless he possesses frame hives, and either has attained, or purposes attaining the necessary degree of facility in manipulating them. I take it also for granted, that he knows how to "drive" a stock of bees, but if not, would refer him to Nos. 139 or 357 of "our Journal," wherein my own mode of operating is fully detailed, or if he cannot refer to these, Mr. Payne's instructions in page 60 of the last edition of "Bee-keeping for the Many," may answer the purpose.

Although the attempt at Italianising with the aid only of common bees in hives with fixed combs is but vanity, and can end only in vexation of spirit, it is sufficiently easy to transfer stocks of bees, combs and all, from common hives or boxes into moveable-comb hives, where they become quite as available (perhaps more so) as if they had been hived in them in the first place. The process is as follows:—During the middle of a fine day, and at a season when the hive is well filled with bees, drive all the inhabitants of a strong colony into an empty hive, which place upon their accustomed stand, then take their original hive in-doors, and cut out all the combs whole. Fit these into frames, and support them therein by strips of wood three-eighths of an inch wide, and one-sixteenth thick, tacked at the top and bottom, two on each side of every comb, and by zinc clips at the top as represented in the annexed engraving.



Thick combs must be pared down; but take care that the cells on either side are left of equal length, and that the "partition wall" is in the centre of each bar. Crooked combs should be set straight, and if not sufficiently pliable to permit of this being done, may be slightly warmed before the fire. It will be found convenient to remove the projecting Woodbury-rib from the bars, and the bees will attach the combs to them with greater facility if their under surface be coated with melted wax. Having completed the job, and arranged the combs in the same order in their new apartment as that which they occupied in their old one, deepen the hive by the addition, on the top, of another from which the frames and crown and floor-boards have been removed, set it on the old stand, and knock out the cluster of bees into the upper hive on the top of the frames of the lower one, putting on the crown-board with the utmost celerity. Next morning take away the inserted hive, and the day after that remove the supports from all the combs which the bees have fixed. If any are not fastened, they should be left until they are also secured.

Stocks of bees with combs not less than a year old, should be selected for this operation, which must in no case be attempted with swarms of the current year, as their combs are too soft to sustain the weight of their contents without crushing when their natural supports have been removed.

(To be continued.)

IMPROVED BAR FRAMES.

There can be no question that the bar frame described in your number of July 8th is a decided improvement upon the ordinary bar-frame, and it gives "increased surface for the fingers and thumb to lay hold of;" but why your correspondent should stop short of the improvement made by "Sibert-on-the-Wold" in No. 262 I am at a loss to understand. The improved bar-frame first introduced by him has the same advantage as that of "E. B.," that "when the cover is screwed down" it holds the frames firmly in their places, even though "the hive were turned upside down." It possesses another important advantage—viz., that the top bar is elongated so as to project quite through the back and front of the hive. Any comb can be lifted from the hive with greater facility, without thrusting the finger and thumb of each hand between the combs, which to me is rather a disagreeable process; but with the elongated top bar the operation of lifting out the comb is easy and harmless, as the combs are removed from the hive by the end of the projecting bar, without pushing the finger and thumb into the hive. A comb can be lifted out, and the bees are quite unconscious of it. I lifted a comb from one of these hives the other day; upon it was the queen busily engaged depositing eggs in the cells, which her majesty continued to do all the time I held the comb in my hands—about twenty minutes. In lifting out combs from the ordinary frame hive, I am compelled to put on gloves and a veil, and otherwise to protect myself from the angry bees which appear to oppose the intrusion of fingers and thumb into their territory, while with the elongated top bar of "Sibert" I can lift out the combs without the least protection. Although I rejoice at any improvement in bee-culture I cannot but think that the bar-frame of "E. B." is rather a step backwards from that of "Sibert."

I have about twenty stocks of bees, only two of which are in hives without the elongated top bar; all the rest of my hives are fitted with Pettitt's metallic bar-rests, and it is "in the belief that it will be of use to some of your readers" that I state my experience and preference for the top bar of the frame projecting quite through the back and front of the hive.

I might state one other advantage—viz., the top bar projects about half an inch, which gives the opportunity of loosening the frames previous to their being lifted out, by a backward and forward movement before the removal of the crown board.—Sudbury.

OUR LETTER BOX.

Eggs not Hatching (*J. Hunt.*)—We have no doubt the failure of your eggs is due to the neglect of dumping them. They cannot hatch well if they are kept dry—the chicken is worn out in its endeavours to leave the shell. It is too often said the eggs were stale, and the birds are consequently weak, when the fact is, that a little sprinkling of the eggs would produce fine strong chickens. An egg that has been laid a fortnight is by no means a stale egg. A Partridge lays eighteen eggs, she takes twenty-one days to do it, and hatches all, yet some of those eggs have been laid three weeks. A Pheasant does not lay quite as many eggs, but she is as long about it, and yet hatches them all. The truth is, and in it may often be found the cause of failure, instead of being content to follow nature, we either neglect or try to help her.

Selecting Chickens (*Amy*).—If it is not inconvenient to keep them we advise you to defer classing your chickens for another month. You may safely get rid of those that have positive and visible defects, they will never pay; but as you cannot depend on equal growth, we fancy you will be a gainer by keeping the best a little longer.

Poultry for a Farm (*Farming Lawyer*).—We believe you can do much better by buying goslings and Turkey poults, than by breeding them. The latter are to be had in any number about the time the barley stubbles are ready, and so are the goslings.

Kettering Poultry Show.—Mr. Dring informs us that the second prize for chickens, "Any variety," was given to his Dark Brahmas, and not Mr. Banberry's Buff Cochins.

Turkeys (*R. F.*).—We are sorry we cannot decide the point. We have our own opinions and have often published them. We cannot see why there should be one rule for Turkeys, and another for fowls. In many parts where Turkey-breeding is an important part of rural economy, no cock is kept, but one is hired for a few days at the proper period, and that is all that is required. All the eggs prove good. We have before stated, we once shut up a hen Turkey for six weeks in a loft; at the end of that time she laid thirteen eggs, and hatched eleven. No bird of any kind had, or could have had access to her. We tried the same with a Poland hen, all her eggs were good, although laid weeks after the cock was removed. It is the same with all polygamous birds. The nearest answer we can give you is, that we believe, save under very exceptional cases, the whole laying of eggs is fertilised by the cock running with the hen at the time she began laying.

Rabbits at Spalding Show (*C. L.*).—We are unable to state either the length of the cars or the weight of the prizewinners at this Show. The catalogue forwarded to us contained neither of these particulars, nor did our reporter note them.

Sand for Young Canaries (*J. Crawford*).—Young Canaries should have sand in their cages as soon as they are taken from the parent birds.

POULTRY MARKET.—July 21.

There is difficulty in making anything like a correct report of prices. In very hot weather much poultry is spoiled, and that which from good management or contiguity to London is enabled to get to market in good order, makes a larger price accordingly. If our readers seeing this were to send, it is more than probable they would be disappointed, the weather might change, or the fowls might be spoiled.

	s. d	s. d		s. d	s. d
Large Fowls	4 0	to 4 6	Geese	6 0	to 7 0
Smaller do.	3 6	4 0	Grouse	0 0	0 0
Chickens	2 0	2 6	Guinea Fowls	0 0	0 0
Goslings	0 0	0 0	Hares	0 0	0 0
Ducks	3 0	3 6	Rabbits	1 4	1 5
Pigeons	0 9	0 10	Wild do.	0 9	0 10

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 29—AUG. 4, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
29	Th		75.7	50.1	62.9	18	21 af 4	50 af 7	31 af 10	17 af 10	20	6 10	210
30	F		75.0	49.8	62.4	16	23 4	49 7	51 11	22 11	21	6 8	211
31	S		74.8	50.2	62.5	16	24 4	47 7	14 11	after.	☾	6 5	212
1	Sun	10 Sunday after Trinity.	75.5	50.3	62.9	19	25 4	46 7	40 11	34 1	22	6 1	213
2	M		75.3	50.7	63.0	20	27 4	44 7	morn.	41 2	24	5 58	214
3	Tu	Royal Horticultural Society's Fruit, Floral,	74.7	50 4	62.6	19	28 4	43 7	1 0	48 3	25	5 53	215
4	W	[and General Meeting.	75.6	50.5	63.1	17	29 4	41 7	48 0	53 4	26	5 48	216

From observations taken near London during the last forty-two years, the average day temperature of the week is 75.2°; and its night temperature 50.3°. The greatest heat was 92°, on the 1st, 1846, and 2nd, 1856; and the lowest cold 31°, on the 29th, 1858. The greatest fall of rain was 1.31 inch.

HINTS TO AMATEURS ON STRAWBERRY CULTURE.

PROFESSIONAL gardeners may be supposed to be quite familiar with the course of treatment generally adopted to secure a crop of ripe Strawberries in the early spring months, and it would be waste of time and space to further allude to it here. I shall, therefore, address myself to the amateur, who, from not being so favourably placed, either with regard to knowledge or convenience, as the gardener, often shrinks from the attempt to obtain the luxury of a few dishes of ripe Strawberries before the fruit comes in from out-door beds. Let me tell him, however, that their culture is both simple and inexpensive, and the reward, according to the labour expended, is more abundant and certain than many people imagine.

For the better information and convenience of those who think proper to adopt either system, I shall divide my remarks into the culture of plants in pots, and the culture of those planted out, taking pot-culture first.

It is necessary for very early forcing to secure the earliest runners, but for fruiting in the last fortnight of April, and in May and June, which will most likely suit the views and convenience of the amateur, the runners obtainable in the first week in July are very suitable. Prepare as many 3-inch pots, though 2-inch pots will do, as there are plants required, by first placing a small potsherd over the hole, then filling them rather firmly with soil, which, according to what experience has taught me, should be a good sound loam that has been laid up for twelve months—I prefer it heavy rather than light, moderately rich, and sifted to facilitate rooting; this done, secure every plant to the soil either by a pebble, or, which is better, a short peg made from a birch broom. Keep the soil very moist, and do not detach the runners from the parent plants until they are well rooted; then set them in the shade for a few days while they root still more. Meanwhile prepare a sufficient quantity of 5 or 6-inch pots, and shift the plants into them, using, in addition to the loam above recommended, one-third of rotten manure. The soil should not be sifted for this potting, and should be pressed firm. After this the pots should be plunged in beds of convenient size, selecting an open sunny spot upon a hard bottom, covered with coal ashes to prevent worms finding their way into the pots. The plants must have a regular supply of water, and be occasionally turned round to prevent their rooting through. They may stand here until wanted for forcing, but if frost occur, they must be protected with fern or litter, taking it off every favourable day. They will under this treatment form large crowns so firmly set in the soil as not to be moveable with the finger and thumb.

Taking the next method—that of preparing the plants for forcing without pots—select a number of turves where the fibre and the soil adhere well together, and if 4 inches thick so much the better. Cut them into squares of 4 inches, turn these turf-side downwards, scoop a little soil out of the top, and fill the hollow with sifted soil as for pots. Take them to the bed, fix the plants, and otherwise treat them exactly like those in pots until well rooted, when they may be cut from the plant. Meanwhile prepare a bed of soil 1 foot in depth on a hard bottom, and large enough to hold the plants at 1 foot apart; plunge the turves into the bed, and well water when necessary. About the last week in September and twice in October, thrust the spade to its full length midway between every plant; cut all runners off as they appear, and protect the plants from frost. If all has gone on well the roots, when the plants are taken up for forcing, will be principally confined to the piece of turf, a circumstance greatly facilitating their removal, and contributing to their success in the fruiting pit. The position for this bed of plants should be open and sunny; if possible more so than that for the pots, on account of the proper ripening of the crowns.

Having detailed the method of preparing and growing the plants, I now come to forcing and fruiting them, and as it is not often possible for the amateur to afford sufficient shelf or stage room for many of his plants, I should advise him to grow plants both ways, using the pot plants as the earliest. These when taken in should, in addition to the drainage being examined, have all the loose soil taken off the pots, substituting a top-dressing of manure and loam, one-half of each, sifted before use, and pressed firmly on the surface. When the plants are introduced into heat, the fresh roots will penetrate the top-dressing in every possible direction, and prove of great assistance at the time of blooming and setting.

If Strawberries are wanted in the end of April, plants should be introduced in the middle of January, and successionally every fortnight up to the first week in April. A gentle heat of from 40° to 45° is sufficient at first, but the temperature may be gradually increased to 55° or 60° by the time the plants come into bloom, and that temperature should be regularly maintained until ripening; they ought then to have the same temperature, but more light and air to improve the flavour. They should always have a place as near the glass as convenient.

If successions of Strawberries are to be kept up by a batch of those planted out, and there is a hot-water pit, a bed of rough material may be made up, such as will afford a gentle bottom heat. After making it of the required height, put a layer of soil 4 inches thick over the bed, then place the plants thickly, with soil around them, and well water, regulating the temperature in the same way as for those in pots. Should there be no pit, a two or three-light garden frame placed upon a 2-feet bed of heating material, such as a mixture of leaves and a little manure, will be found very useful and suitable. Elevate the frame at the back 1 foot higher than the front; plant, and regulate the temperature the same as for the hot-water pit. If the weather be fine and warm, the sun will afford sufficient heat to grow and ripen the fruit; but if cold, like the past spring, a lining of heating material may be applied with advantage.

Pay particular attention to watering during growth, and

when the plants are in bloom keep the atmosphere drier, and let more air circulate amongst them. They like a sprinkling overhead at times, and it must be regulated according to the dryness of the atmosphere. Look sharply after green fly, which, if allowed to increase unmolested, will weaken the plant, and cause much of the fruit to be deformed and flavourless.

If any vacancy is likely to occur between the forced plants and those growing in the bed, and there are any plants to spare of either sort, they may be plunged or planted in some sunny spot, well sheltered on all sides but the south and south-west; there they will come in ten days or a fortnight earlier, and be as well flavoured as those fully exposed.

With regard to varieties, they are numerous, and most people have their favourites, but I should recommend Keens' Seedling for the first, Sir Joseph Paxton second, and Dr. Hogg or British Queen last; or, if but one is required, take Sir Joseph Paxton; it is large, pink, of good flavour, and a heavy cropper.

I would advise all who have the time and convenience for growing Strawberries to try the preceding plans, and if carried out as advised, they will not be disappointed in the results. Before I had the room and other conveniences for growing Strawberries, I practised what I advised, and gave every satisfaction. A small quantity can be grown as well as a large one. —Thomas Record, *Hawkhurst.*

CULTURE OF EUCODONOPSIS NÆGELIOIDES AND ECHEVERIA METALLICA.

The free yet compact growth, handsome foliage, and abundant blossoms of Eucodonopsis nægelioides render it a desirable plant; the ease with which this beautiful stove plant may be propagated, and the simplicity of its culture afterwards, are also much in its favour. It is propagated in a similar manner to any of the Gesnera family—namely, by cuttings of the young shoots, by leaves, and by pieces of its scaly tubers. The least desirable method is propagation by the leaves, as the tubers which they produce are necessarily weaker than those formed by either of the other methods; but if a large stock is required, then leaf-cuttings are very useful. Stout cuttings of the young shoots, if made early in spring, kept shaded, and plunged in pots in a brisk bottom heat, strike root quickly, and become useful little plants in the same season. Strong tubers broken in halves throw up vigorous shoots, which form good succession plants to those produced from entire tubers. It is important to remember this, because the plants from old unbroken tubers always bloom earlier than those formed by portions of tubers, and it would therefore be unwise to put portions of tubers in the same pot with an entire tuber.

So dense may the growth of this plant be rendered by judiciously pinching the young shoots in the earliest stages of their growth, that two or at most three tubers only are required for an 8-inch pot. When the tubers are started into growth in spring they are placed in small pots, so that the plants may be shifted twice, the second shift to be into the blooming pots. If the pots are kept plunged in the bed of the stove, or in any lively bottom heat, so that the young growth is produced in a moist genial temperature, it will tend to promote free growth and healthy vigorous foliage. As the plants attain size, the pots may be lifted and placed on the side stages of the stove, or, which is perhaps better still, in a vinery at work, where, overshadowed by the foliage of the Vines, the plants continue to grow luxuriantly; and when in bloom the profusion of pretty flowers and the handsome foliage almost concealing the pots, form a lovely and attractive sight.

Owing to the hairy nature of the foliage it is necessary to endeavour to keep it quite healthy and clean, for if thrips or red spider once takes hold, it is a very difficult matter to destroy it.

No very complicated mixture of soil is requisite to grow this plant successfully; equal parts of loam, peat, and rich well-decayed manure, with a double quantity of sand and a sprinkling of charcoal, will answer very well.

The quaint appearance of Echeveria metallica, and the singularly delicate bloom visible on the surface of its foliage, are doubtless the chief causes of its popularity. Some inquiries respecting its culture have induced me to offer one or two notes concerning it. As the extreme simplicity of its culture is apparent at a glance, I shall confine my observations to its propagation.

Like most other succulent plants its cuttings emit roots freely. Cuttings are made either from the tips of the young shoots or of the leaves; those from shoots root quickly at this season in an ordinary frame or pit without artificial heat. The leaves, although not requiring a higher temperature than the shoots, do not strike root so quickly; and as, after putting forth roots, they have their shoots to form, it takes a longer time to obtain useful plants from them.

I have followed two methods when propagating this plant by its leaves; one is to insert the leaf in the soil in the same way, and to about the same depth, as with shoots; the other is to rest the base of the leaf on the surface of the soil, and support it by means of a stick and bast. This method, though rather more troublesome, is preferable to the former, as the leaves emit their shoots much sooner than those inserted in the soil. Should a number of plants be required for bedding purposes they may be quickly and easily obtained by placing in heat a few strong old plants, from which shoots will start in abundance.—Edward Luckhurst, *Egerton House Gardens.*

POTATO FAILURES.

Your correspondent, "J. W.," in your number for July 15th, appears to attribute the principal cause of Potato failures to the unusually long time from the taking-up to the planting of the seed. Upon this point I will communicate my own experience. At the outset it is right that I should observe, that I owe the system of Potato-growing which I have adopted, entirely to Mr. Fenn, of the Woodstock Rectory. In July I selected my seed Potatoes, taking medium-sized Potatoes, not thoroughly ripe. These I put in a cool place in single layers on boards, with a moderate supply of light, out of the reach of frost, and there I left them untouched till the middle of February. I then with a penknife dug out every sprout but the principal one, so as to extirpate root and branch. The interior shoots at this time were very short and scarcely visible, which is usually the case in a cool temperature. I went over the work again, where required, just before planting. On the 19th and 20th of April I planted the following sorts:—Myatt's Early Prolific, Rivers' Royal Ashleaf, Webb's Telegraph, Hogg's Early Coldstream, old Walnutleaf, old Ashleaf, Dickson's Premier, and Fenn's Onwards. All have come without a single failure, and I have dug several with as many as thirty fair-sized Potatoes to a root. I had some of my old seed left, and having a spare piece of ground, I planted some on the 3rd of July, and I now find that they are nearly all appearing above the ground. I have been over the Rectory gardens to-day, and saw there a splendid lot of Potatoes, all planted on the ridge-and-trench system, and not a single failure was observable. Mr. Fenn kindly dug up several of his own seedlings to show me, and they were magnificent. Their equal for beauty and wax-like appearance I have never seen. He then brought out some old seed, kept as specified above, in famous condition, and planted these old sets whence he had just dug early Potatoes. I may, therefore, safely observe, that seed managed as Mr. Fenn manages and plants his, will not be injured by unusually long keeping.

In connection with the ridge-and-trench system of planting, Mr. Fenn observed that he intends writing the whole subject again for the benefit of the present subscribers and readers of The Journal of Horticulture. Since visiting the Rectory gardens, I have received from Mr. Fenn a dish of three sorts of his seedlings to taste. He has named them The Rector of Woodstock, Fenn's Onwards, and Woodstock Kidney. I have tasted them; in fact, almost dined off them. I so thoroughly enjoyed them, that I may safely say that I never tasted a Potato of so fine a flavour. All were uncommonly good; but the seedling called The Rector of Woodstock, which was entirely ripe, had a flavour of such a dry and rich character that it could not be surpassed. The Rector of Woodstock is a first early round Potato, and extremely handsome.—E. Hobbs.

ORCHARD-HOUSE FAILURES.

Writing of orchard houses, Mr. Pearson says, "I have not heard of a single house without artificial heat where a crop is to be seen." We have a large house without fire heat, or any means of giving it, with a crop of Peaches, &c., in pots and on walls, and whether the said crop is full, average, or scanty, we are quite agreeable to leave to Mr. Pearson's opinion.

It is barely correct to say that the increased temperature of the cold hothouse over the open air is not the result of artificial means. Where the area of ventilation is fixed for day, night, and all weathers, there cannot, as a matter of course,

be claim to much art, any more than this year such houses can show much fruit; but where the ventilation is regulated with regard to the economisation of the sunbeams, there is considerable art, without which in this locality fruit by this means could not be had in any year.

To show that low temperatures occasionally are not injurious, it may be here observed that we have had the thermometer at 21° Fah. inside the house when the plants were in full flower, after which we never had a fuller set or better crop. We fancy —it may only be fancy—that the structural form of the house has considerable influence in this system of cultivation.—H., *Scone Palace, Perth.*

AMONG THE SWISS LAKES.—No. 1.

Not being gifted with either Musel's cloak or Fortunatus's hat, I had to pass over some seven hundred miles of land and sea before I reached the point where I was to be introduced to "the Merry Swiss Boy" and his surroundings. Now, that boy is no common boy, and he cannot be a common boy—of course I speak of a generation, not of an individual—who is born and passes his life in such a mountain land. I will not pause to argue over the why and because, but I rest upon the fact that the people of the mountains are everywhere superior to the people of their neighbouring lowlands, both mentally and physically. The Dutchman has a large posterior development, but the Swiss has a muscular leg and arm and an elevated cranium. Look at the clusters of Swiss boys, each with his knapsack, passing on, morning after morning, from every point of the compass to the canton-sustained school of the district; and from these clusters you may deduce another evidence—universal education—why a Swiss is intelligent and free.

I certainly feel equally free of pen, for when I dipped mine into the ink it assuredly was with no intention to dwell upon Swiss boys and their education, but to have made no pause until I came to my recollections and notes of Zurich. Well, here I am beneath the trees at the end of the garden of the Banr au Lac, and looking upon the lake's blue water and its bright green, villa-dotted banks. There are three English ladies and one Swiss lady near me; and this one last-named reminds me that the girls and women of this land are also physically and intellectually superior to the feminines of lowland countries. Let one instance suffice. A Swiss lady, evidently a governess commencing her annual holiday, was in the same railway carriage with me. We crossed the Channel together, went on to Paris together, and there I thought that mind and muscle demanded rest; but not so my companion. The Ranz de Vache had a spell over her, and on she went to travel without a resting over some more hundreds of miles, until she had reached the land of her birth. Well, God speed her! But before I pass from the remembrance of her fair face, and mind as fair, let me record that it is a delusion to believe that a Ranz de Vache is one especial and universally accepted melody. Every district has some favourite air, and that is its Ranz de Vache.

And now, if I can restrain my thoughts from further vagrancy, let me dwell upon subjects more consonant with the special topics of your pages. No, it cannot be; for I must jot down first something about that John James Scheuchzer whose "Itinera Alpina" is the first published of Swiss guide books—and a strange book is it. He was a professor at Zurich, this very place where my Swiss notes begin. Some ignorance of the district around does he betray, yet both he and his brother John—rare fraternity in science—were superior botanists. John devoted himself especially to the study of the Grasses, and John James to the study of alpine plants; and they are most aptly commemorated by the genus *Scheuchzeria*, for its solitary member is of grassy habit and of alpine birth. John James was a native of Zurich; he was its special physician, its professor of mathematics, and there he printed and published nearly all his numerous and voluminous works. Most of these works have one peculiarity—wherever an engraving could be possibly introduced, there one, however irrelevant and unneeded, is introduced. Thus in his "Physique Sacrée," or Natural History of the Bible, having occasion to quote the Psalm, "Who can endure the cold of the Lord?", is inserted a picture of about twenty men who suffered severely in the ice; and an allusion to some coin enabled him to add engravings of medals he had collected! Peter the Great endeavoured to lure him from his native land, but the Senate of Zurich prized Scheuchzer too highly to permit his departure. They bestowed upon him honours and stipends, and thus detained him until he died in 1733 among his fellow citizens.

His "Itinera Alpina" does not differ from his other works in having numerous illustrations, and the most interesting is his own portrait. An inscription beneath each reveals that they were added at the expense of his friends, and it startles at first to find that our Sir Isaac Newton thus contributed some, and that the portraits of plants were paid for by our botanists Bobart, Lhuyd, and Dale. With no faint interest did I examine the specimens collected by the Scheuchzers, preserved and labelled in their own hand-writing, in the herbarium attached to the Zurich Botanic Garden. This garden was established in 1560 by him who has been well named "the greatest naturalist the world had seen since Aristotle," Conrad Gesner. His collection of dried plants has been mentioned as preserved here; but it is not, nor could I learn that it had been ever, deposited in any of Zurich's public museums.

This town, like our Norwich, has been fertile of botanists, besides many high masters of many other sciences; but I will dwell only upon one other, who, like Gesner, was one of the most loveable of men—Lavater, the physiognomist, who needs no other testimony than that he would not reveal the name of his assassin, and, perhaps, it is an evidence that his countrymen think he needs no eulogy, that there is no other epitaph over his grave than this, in the obscure churchyard of St. Anne:—"J. C. Lavater's grave. Born 15th Nov., 1741. Died 21st Jan., 1801." I might not have noticed this true personal illustrator of charity, had not I long pondered over the physiognomy of organised forms which Lavater has left unnoticed—plants. They have had, however, their Lavater, for Humboldt wrote "Considerations on the Physiognomy of Plants;" but he and his disciples have confined their comments to the features imparted to a country by the plants which are there specially predominant. The Palmæ, Musaceæ, Piperaceæ, and Scitamineæ impart a physiognomy to the tropics, totally differing from that imparted by the Abietinæ of northern latitudes. But we might, I think, go some steps further; might detect the internal qualities of plants from their physiognomy. When we see a plant having the form of a Grass, whether it be pygmy, as the Poa annua on our gravel walks, or 50 feet high, as in the Bamboo, we know that starch predominates in its seeds. Again, in the large natural family of the Rosaceæ, is there one fruit that is unwholesome? or one that does not contain malic acid?

The connection of Gesner and the Scheuchzers with the Botanic Garden of Zurich impart to it a deep interest, and gladly do I bear testimony, that under the management of its present courteous, indefatigable, and skilful Curator, Mr. Ortgiss, it maintains a good position. It is not very liberally endowed; Zurich gives the ground rent free, and the Government allow £63 yearly, but the chief income arises from the collections of alpine plants, gathered together by Mr. Ortgiss during his researches among his native mountains. Those collections command a ready sale, and this source of income is consonant with the spirit of national independence; and how effective it has been is evidenced by the building and its fittings in which the Herbarium is preserved. They were paid for out of the proceeds of those sales.

One lesson was taught me by the alpine plants in this garden, which may be suggestive in cases of failure with other plants. *Linaria alpina* and *Aster alpinus*, both natives of Switzerland, pertinaciously refused to live in the garden. Mr. Ortgiss sent plants of them to Messrs. Backhouse, of York, who propagated them, and Mr. Ortgiss obtained from those well-known nurserymen some of the young plants. These flourished in the Zurich garden, and their offspring are now there, and are annually the parents of others.

Mr. Ortgiss recommends *Pterocephalus perennis* as a white-flowered edging plant. He has also a very pretty hybrid Myosotis, which he calls "Empress Elizabeth." Its parents are *Myosotis alpestris* and *azurea*. It flowers most profusely, forming a mass of intense blue, and the plant has the additional merit of producing a succession of flowers if their predecessors are cut down when fading. The term "hybrid perpetual" would not be misapplied to it.

One source of income to the garden arises from the sale of fronds of *Cycas revoluta*. The Swiss call them "Palms," and a frond is placed in the hand of a corpse, then on the coffin which encloses it, and finally is placed upon the grave. Eight francs are given for a large frond suitable to an adult, and five francs for a small frond of a size appropriate for a child.

One of the novelties in the garden was a perfectly white Gentianella (*Gentiana acaulis*). This, and many intermediate varieties, found wild on the Alps by Mr. Ortgiss, are permanent

in the Zurich garden. There are *pallida striata*, white with a blue stripe; *alba cærulea adspersa*, white sprinkled with blue; *excisa cœlestina*, white with a blue band, and several others.

It is a marvellous fact, that the American water weed, *Anacharis alsinastrum*, has found its way into the Zurich garden. Mr. Ortgies said he had taken, he thought, every precaution to avoid its being introduced; but its seed or some fragment attached to another aquatic had brought it into one of the stone tanks for aquatics.

I was much struck with the result from one mode of cultivating the Paulownia imperialis, adopted by Mr. Ortgies. Instead of allowing it to become a tree, he annually cuts it down close to the ground at the approach of winter. In the spring it throws up a stem most robust, 18 feet high, clothed to the ground with leaves 2 feet in diameter, and bearing some resemblance to a gigantic Sunflower.—G.

RHODODENDRON CULTURE.

(*Continued from page* 49.)

In continuation of the subject of soil, a very useful kind is often met with in a yellow sandy loam, not the hungry sandy soil which exists in some places, but sufficiently stiff to meet the requirements of many other plants, and which when laid down in grass is often covered with a multitude of wormcasts. Tracts of this character are found in many places, and in such there are healthy quickset hedges. I am not aware of any soil much better than this for the Rhododendron. A large extent of soil of this description exists near the southern boundary of the county of Kent, and near Tunbridge Wells and other places. It also commonly occurs in Devonshire, and I recollect Mr. Paley, the then-gardener at Mount Edgecumbe, near Plymouth, pointing out to me in the park there, the line of demarcation between it and a soil of an opposite character. On one side of this line the Rhododendron grew well, and the flowers of the Hydrangea were blue; on the other side the flowers of the latter were pink, and the Rhododendron dragged on a miserable existence. The soil alluded to does not make even a remote approach to peat, being bulk for bulk much heavier, and in no respect resembles it excepting in its capabilities of supplying the wants of the Rhododendron. Tracts of this kind of soil are met with even in close proximity to the chalk formation, for instance, near Dorking, but they are less common among great breadths of stiff clay. A mound of this kind at Preston Hall, near Maidstone, was taken possession of some years ago by the proprietor, and planted with Rhododendrons, and they thrive remarkably well. This soil, however, is more sandy than is usually met with, and I believe sufficiently moist.

Among the soils which are most to be avoided, are those containing much calcareous matter; for useful as it is to many plants, an abundance of it is fatal to the well-doing of Rhododendrons. It is next to hopeless to attempt the cultivation of the plant in chalky districts, or where limestone prevails. I will now pass on to another kind of soil which is said not to be so detrimental to the plant, and in which it is asserted by many that it will succeed well—I mean a clay soil, but I have seldom seen a satisfactory growth in soils of this class; in fact, the places are so few where any approach to success has been made in such, that I have never recommended Rhododendrons being there tried, except in cases where they seemed to be a necessity. Clays, however, differ in their chemical qualities, and some may be more suitable than others, and may answer for the common kinds of Rhododendrons, but I do not advocate an extensive plantation on a stiff clay, and to mix clays with lime, as is often done for agricultural purposes, makes the soil less suitable. A clay not containing too much calcareous matter may be improved by mixing with it yellow sand in large quantities, as the latter often contains sufficient ferruginous matter for the Rhododendron, while a bright orange sand too often contains more than enough. Much circumspection, and a knowledge of the character of the clay, are indispensable before acting in the matter. It is not easy to explain what are the features of a clay which may be converted into a fitting bed for the Rhododendron; one from which bricks are made is rarely suitable, especially if in burning those bricks shrink very much, but the stiff soils where the Brake Fern is found luxuriating may often be advantageously planted with Rhododendrons.

I have mentioned that the hard stone of the oolite formation, mingled with earth of a kindred description, often furnishes a singular but good soil for this plant; a not less suitable one is often met with where sandstone prevails, and I have seen plantations of this plant entirely amongst the refuse of a freestone quarry, as it was called in the north of England, differing merely in its component parts from the Bath stone so extensively used about London. This sandstone *débris* seems well adapted for the growth of the Rhododendron, and where it abounds the plant may be tried with every prospect of success. Indeed, I am not sure but crushed sandstone may be used with advantage in those cases where an artificial compost is necessary, or has to be added to the clays above referred to.

Other descriptions of soils might be discussed, but I have said enough to give the general reader an idea of what is suitable for the growth of the Rhododendron, or rather the soils are described in which it will thrive tolerably well, while I have attempted to point out those of a contrary description. I shall now turn to another phase of Rhododendron cultivation—one to which there has been less attention hitherto paid than to soils—and that is the rearing of plants.

Preparation of the Young Plants for Planting Out.—Simple as this may appear, I believe it has more effect on the ultimate success of the plantation than is often allowed. It is not by any means sufficient to order a number of plants from a nursery and plant them at once; such a course has seldom been so successful as desired, and a casual glance at once explains why. In general, the Rhododendron is only grown extensively in the trade by nurserymen occupying ground exactly suited to their wants, such as a good dry peat, vigorous growth being the result. Plants are ordered for some place a long distance off, and to be planted in a soil not by any means so well suited to their wants as that from which they came, and the distance being great, the carriage is likely to become heavy; to lessen the expense the ball of earth attached to each plant is reduced to the smallest size consistent with the plant's living. Now, when we take into consideration the reduced size of the ball, and the indifferent soil it is removed to, we can hardly be surprised that considerable time is lost before the plants become established in their new home, and it is not unlikely that many will die under the ordeal. This is not an isolated case; I imagine a very great proportion of the Rhododendrons obtained from the nurseries are subjected, at least to some extent, to similar treatment—not that the tradesman is in fault, for he cannot help it, and I have no doubt he would willingly furnish a larger ball with each plant, only he knows how much that would increase the charge for carriage, which for common varieties is often as much as the price he receives for them. The remedy for this state of things, especially in the case of the common kinds, as Rhododendron ponticum, is to obtain a quantity of seedlings with half a dozen or more full-sized leaves on each, and plant them out in a nursery bed, in ground resembling that which they are ultimately to occupy. After having been planted about two years they will have become bushy plants, and may be taken up with balls entire, as their removal to their ultimate quarters is not a serious affair when they are on the spot, and may be said to have become naturalised to the soil and other conditions of the place. Those who plant R. ponticum extensively for game cover or undergrowth, I cannot too strongly recommend to adopt this plan, as being the most certain to ensure success. I have practised it here for many years, as affording better-rooted plants than can be had elsewhere; and thus the roots as well as the whole plant are inured to the soil and situation they are intended to occupy.

A further recommendation in favour of the foregoing method is, that in places where rabbits are very numerous, few, if any, plants escape their destructive propensities, and it has often been asserted that Rhododendron ponticum is proof against them, but those who make the assertion have, perhaps, never witnessed these prolific marauders in such numbers as are met with in some localities, or they would have seen that this plant, though suffering less than many, is not exempt. I have often been led to think that where new plants from a distance are brought near rabbits they are the first to suffer, while those of home-growth escape. I suppose it is the novelty that accounts for the greater injury done; but I do not mean to assert that the home-reared plants all escape, but they certainly suffer less than imported ones; besides which, it very often happens that the latter have been growing more closely together than the others have, and a more delicate set of side branches may in some degree account for it. I think it is but seldom this plant is partaken of as food, but the evil is quite as great if the shoots are bitten off and the plant either injured or destroyed.

As I only intend to explain the main points in the cultivation of the Rhododendron, it is not necessary to enter into details respecting the many varieties now grown. Persons who are doubtful of the soil or situation suiting them, had better begin with the common kinds first, and the very commonest, R. ponticum, is not without its merits. I question much if any of the others is so generally serviceable. In habit the plant is excelled by none of them; its foliage is good, it remains as long in flower as any, and is said to thrive where others do not. Of the latter property I have some misgivings, as many of the hybrids thrive as well as ponticum in a soil said to be unfavourable. It certainly is the hardiest, and it reproduces itself from seed with greater facility than most others. Old plants surrounded by weeds as high as themselves, scatter their seeds, and then become plants amongst the rubbish, and with more certainty than if the seed had been deposited in a prepared bed in the kitchen garden. Rhododendron ponticum also varies in colour, and a mass of it in flower is, perhaps, shown to best advantage when it is surrounded by tall grass just fit to cut for hay; the rich tints of the Rhododendron slightly overtopping the various grasses just ready for the scythe, give an air of vigorous health, which the closely-shaven lawn fails to do. More choice varieties may, perhaps, deserve a better-kept position, but those who have witnessed it in the rougher one, will, I think, say I am right. It would not be well to allow long grass to usurp too much of the ground occupied by these plants, but to keep their collar free from weeds or rubbish of all kinds.

In forming a collection of the best varieties of hybrid Rhododendrons, it often happens that too great a proportion of those selected are of the rosy scarlet section, of which Mrs. John Waterer may be said to be the type, while but few are white. The latter colour is, in my opinion, the most valuable in a Rhododendron; for it contrasts best with the dark green foliage, and in the majority of cases where this shrub is grown, the eye of the beholder rests on a mass of foliage as a background, against which white flowers stand out in relief; in fact, white flowers, as a whole, are never too numerous. Whoever yet found fault with a white Camellia? and the sooner we can have a Rhododendron to match it the better, adding at the same time the strong waxy substance of corolla that some of the Himalayan species possess. The latter ought to be more extensively tried in favoured situations, as they have not yet been sufficiently hybridised with better-known kinds, in order to transmit their desirable properties to their offspring. It is only in favourable situations, however, that it would be advisable to try many of these distinct species.

The better-known Rhododendrons are likely to succeed in a soil and situation falling short of what may be called first-class; but most of the varieties generally called "hybrids," including the bulk of the named kinds, may be grown in soil such as I have described, and, as a class, they afford, perhaps, as great a display of floral beauty as anything in the gardening world, not even excepting the gorgeous Indian Azalea and the bedding Pelargonium, while as evergreen shrubs they are exceeded by few in point of long-continued beauty. R. ponticum, at least, may be said to be one of the hardiest plants we have in its capacity of enduring our winters, and most of the hybrids are equally so. I hope, therefore, where opportunity offers, that the cultivation of this plant will be extended, and that groups of it will be planted in woods and other places from which cattle are excluded. For lining the sides of drives, or roads through similar places, no plant can be more appropriate, for where the soil is suitable, and it has had a fair start, it generally maintains itself against most ordinary vegetation. Wastes devoted to the rearing of game might also have a few specimens of this plant, not scattered singly, but arranged in groups; and if they were looked after for a year or two at starting, they would take care of themselves afterwards. It is in such wastes that it thrives best; a trial of it is there well worth making. The sites for this plant are so many, that there are few persons having the means, who might not find a situation in which to try it and have the pleasure of unexpectedly meeting with a clump of this plant, say at the end of May, when it is in flower.

Much more might be said in favour of this plant, and places pointed out where it forms one of their most important attractions, witness the gaiety of certain portions of the London parks when this plant is in bloom. In their case, however, I expect the bed is prepared at considerable expense; but there are plenty of places where it would do better than it ever does there, if a little attention were paid in starting it. In many places it is almost naturalised, the plant ripening its seeds and disseminating them in all directions, young plants springing up by the thousand. Amongst those who had the good taste to plant the Rhododendron extensively when it was scarcer than now, one of the former owners of Cobham Hall, of which an account was given in the last volume of this Journal, deserves to be particularly mentioned. There a dry peaty wood had been divided into compartments, and the side of the walks or roads lined with this shrub, probably nearly a century ago. The soil and situation suiting them, the Rhododendrons have reproduced themselves in such numbers, as completely to occupy the whole space, the roads only being kept clear, and a mass of fifty or one hundred acres presents a display of beauty in the season which few places can boast of. As the plant is now at least a hundredfold more plentiful than it was a century ago, those desirous of presenting futurity with a similar sight, can accomplish the object at much less cost. I hope, therefore, to see many waste places ornamented with groups of this plant, which, besides its beauty, is valuable as affording shelter.—John Robson.

JUDGING CUCUMBERS.

We have been applied to by several correspondents for some rules applicable to deciding the comparative merits of Cucumbers exhibited to compete for prizes. We are not surprised at such applications, because there is often great and just dissatisfaction when a huge brace, thicker than a man's wrist, 20 or 24 inches long, yet yellowish at the ends, and so flexible from keeping that if held in the middle the ends would bend down far towards meeting, are passed over for a neat perfectly-fresh brace, green throughout, not much above a foot in length nor more than 1½ inch in diameter. To the latter we should award the prize, for they would be far superior in crispness and sweetness. To meet the wishes of our correspondents we reprint from a former volume of our Journal the following:—

1. The first essential is that the brace of Cucumbers be young, fresh, and green.

2. Both the Cucumbers forming the brace should be straight, and the one a counterpart of the other in thickness and length.

3. Though young and crisp, the fruit should be sufficiently grown to be free of anything like deep sutures along the sides, as these involve as much loss in preparing for table as deep-eyed Potatoes.

4. The shorter the shoulder of the Cucumber and the more distinct it is the better—that is, no blending of the shoulder with the general length of the Cucumber, but that general length or gun-barrel part should start with an abrupt roundness at once from the shoulder, and proceed with the same diameter until it ends as abruptly at the point.

5. It is well that the point should be quite green, and if the blossom be attached to it all the better. If the bloom on the Cucumbers is fresh from end to end an extra point will be gained.

6. As respects proportion, nine diameters used to be considered a good proportional length; and hence a well-grown symmetrical brace, 9 inches in length and 1 inch in diameter, will have many admirers. We would prefer for longer Cucumbers that the diameter should be a little less proportionally—that is, a little less than 2 inches for 18 inches in length.

7. We have kept length to the last, but it will ever form a favourable item in judging, when united with freshness and symmetry. Shorter fruit will win, if shown against long, only when more fresh, more symmetrical, covered with richer bloom, &c.

STONE BLOCKS FOR ORCHIDS.

I am not aware that the acknowledged authorities on this beautiful family of plants, who have favoured us with a revelation of the secrets of their art in the successful culture of the various species of Orchids, have ever spoken of stone as suitable material on which to place those which are generally recommended to be placed on blocks of wood. Neither have I any recollection of ever having seen epiphytes with a stone to feed upon. This material may, however, be used beyond the range of my observation. Be this as it may, my present object is not to recommend stone blocks as the best sort that can be used, nor to say that I have, from any lengthened experience, found any advantage in using stone instead of wooden blocks, but simply to state that about a month ago I had to look about for a few suitable blocks for Orchids, and could not conveniently find

them; and as is often the case in gardening, where a way cannot be found it has to be made, and so a few soft freestone blocks were hewn into shape something like small sugar-loaves, and placed a few inches deep in pans filled with soft water. On one was placed a sickly plant of Phalænopsis amabilis, and on others plants of Aërides Lobbii and A. Dayanum. The first named of these especially had not a fresh root, and just one leaf, when placed on the cone of stone. They were simply fixed in their places with a piece of matting, and a little fresh sphagnum placed round their collars. The Phalænopsis has now three fine healthy leaves of a dark green colour, and is rooting and growing vigorously, and clinging to the stone with immense roots, which are covered with a gelatinous substance, the sign of health. The same may be said of the Aërides.

The soft freestone, by capillary attraction, keeps itself always full of moisture, and it is, moreover, a good absorbent and conductor of heat; and, so far as my observation goes, it appears a material worthy the attention of Orchid-fanciers. Soft freestone can be cut into such a variety of shapes that a house of Orchids might be made to look much more picturesque than they are generally met with.—D. Thomson (*The Gardener.*)

THE MERITS AND SHORTCOMINGS OF THE ROYAL HORTICULTURAL SOCIETY'S

MANCHESTER SHOW.

In taking a retrospect of past events, there are comparatively few in which some improvement does not seem capable of being made, and however frequently the same thing may be repeated, the same observation often holds good; for something at one time is different from what there is at another time, rendering a departure to a certain extent from the former course necessary. The arrangement of horticultural shows is no exception to this rule; the stereotyped course of those held in the metropolis cannot in all cases be followed out in the provinces, while a too lax regard to principles entails confusion and disappointment. But it is thought that experience ought to obviate this, those having the management of such gatherings benefiting by the practice of former years, yet such is not always the case, as was witnessed at the late Manchester Show, where a schedule of prizes, liberal to a degree which only a wealthy city like the cotton metropolis could put forth, was expected to bring together the best horticultural produce the kingdom could furnish. Many good things were sent there, yet the Show as a whole fell short of what it ought to have been, and what the donors of prizes had a right to expect. This, no doubt, is attributed to different causes; one of which, and perhaps not the least, was the diffidence of many exhibitors, who declined showing, under the impression that the liberal prizes offered would call up an opposition which would leave them no chance, and numbers acting on that opinion left the competition in many instances to comparatively few; consequently, as I heard an experienced exhibitor declare, "Many of the prizes were literally stolen."

Now, this is not as it ought to be. The patrons of a show, and there were a great many such at Manchester, had a right to expect some compliment paid them. In some classes this was certainly the case, but it was by no means general, and for this exhibitors are unquestionably to blame. Then comes the other side of the question, Did the managers of the Show perform their duty? I fear only one answer can be given to this, and that a negative one; for as one of the local papers expressed it, "The whole denoted roughness, no attempt being made to conceal the fact that it was held in a pasture field; the long seed stems of the grass remained uncut, embellished at least up to Monday evening with a plentiful supply of shavings and other litter." Certainly some parts of the ground presented the appearance of having been levelled, and the parched character of the sods so thrown down could not be mended; but why delay the erecting of the vegetable tent till after the time the cards intimated the public were to be admitted?

Many other delays seemed unaccountable to those who have witnessed punctuality and order elsewhere. An entrance, imposing enough, admitted the visitor into a square or oblong piece of ground, one side of the entrance being devoted to the stands of horticultural-structure builders, implement makers, boilers, and the like; the other side contained the tents for the plants and fruits, while in the immediate front, and that, too, at but a few paces from the entrance, were some empty plant vans of no prepossessing appearance! The arrangement of the various examples of hothouses and the like was all very well, and a spacious refreshment tent was also well placed, but the tents for plants presented a sad disregard to order and appearance when compared with those in the agricultural department.

A large circular tent, which might with some propriety have occupied a central position from its height and importance, was placed at one side, while a long narrow one for Orchids and similar plants occupied a sort of valley at one side of the ground—an arrangement not to be complained of, perhaps, since shelter and exemption from draughts are so necessary for these plants. The other tents were also long ones, and certainly too narrow. In one of these the fruits were arranged on a table along the centre, with some other things; in the others were the plants of various classes, as well as in the large circular tent before alluded to.

Beginning with the large tent, it may be explained that a circular stage occupied the middle, on which were placed some of the best plants of the Show, being the collection of mixed flowering and fine-foliaged plants from Mr. Baines, gardener to H. Micholls, Esq., of Bowdon, and others; while around the sides of the tent were collections of Ferns and handsome-foliaged plants, standing on the grass and without any protection whatever from the intrusion of a crowd, unless some short stumps about 6 inches high could be called a guard, but they also tripped-up the visitors, and I had the good fortune to save a lady from falling into a very fine Sanchezia which stood near the edge. Surely a rope of some kind ought to have been placed.

The fruit was equally unprotected, the public being allowed close access to the tables. Now, in making this remark, I by no means wish it to be inferred that any intentional damage was done so far as I saw, because the number of visitors was not great, and to their credit they scarcely touched anything unless it was a card; but if the crowd had been greater it would have been impossible to have avoided injury to something, however careful and well-intentioned the whole of the visitors might have been. A rope at a short distance would have been a relief, even to those nearest the various objects exhibited. Witness a bevy of young ladies four or five deep bending over and scanning with critical eye the beauties of the ball and bridal bouquets, while paterfamilias behind them, perhaps more rude in his anxiety also to gratify himself, forces the front lady against one of these fragile beauties, and an injury, if not an upset, is the result. Are the managers not to blame to leave such tempting objects of inspection so unguarded? A stand of skeletonised plants or foliage in the same neighbourhood was wisely enclosed in a glass shade. Further on the fruit were objects of equally anxious scrutiny, and the natural desire to ascertain the names of the exhibitors, led, perhaps, to some unintentional damage here by the cards being so frequently lifted, and in this case a very grave and serious blunder was committed by the managers of the Show not employing some one to write them whose penmanship would have informed the passer-by where such things came from at a single glance, instead of necessitating him to take up the card and make it out as best he could; for the handwriting certainly did not exceed that of ordinary correspondence. Good penmen are assuredly plentiful enough to be within the reach of the means of the Society, whereas the handwriting of the exhibitors' cards was, perhaps, the most difficult to read that was ever seen at any exhibition. In the vegetable tent, I heard more than one argument held as to whether the card represented the contribution of one or more dishes, the writing and figures being so indistinct, and there were no divisions of any kind between. A dozen or two yards of red tape, much as it is despised figuratively, might have been advantageously used here, by tacking it on the table to divide the classes, and the same might have been done amongst the fruit and plants. Perhaps this might be done at a later period of the Show; but there is no excuse for the indifferent character of the writing on the cards, which, I believe, were written some days before, but certainly in such a way as would have met with a severe rebuke from the critics of the London shows some twenty or thirty years ago.

Let us turn to other pleasanter aspects, and as the main features of the Exhibition have been commented on by others, only one or two minor matters will be mentioned here, the first of which is, that all praise is due to Mr. Barron, or whoever sent the contribution of Fig trees in pots from the Royal Horticultural Society's garden. I should much like to see the same pots when the fruit is ripening. The pots of Vines in

bearing, as well as those prepared for next year, from Mr. Meredith, were also good, and only elicited a regret that Mr. Meredith's name was not amongst the competitors for fruit prizes. A collection of Grapes from Mr. Thomson, of Dalkeith, was also remarkable, as being the produce of Vines only planted last year, and some of them from eyes of that same season. The bunches, though not large, were good, and well ripened, being shown as examples of what a heated border was capable of doing, as Mr. Thomson is an advocate of that plan. Certainly the Grapes were good for such young Vines, but it is late in the season now to ascribe merit to underground heating; as examples, however, of skill in showing how soon after planting good Grapes could be produced, they were meritorious. A good bunch of the Golden Champion also accompanied them, not ripe, it is true, but simply to show the character of the Grape, which has a good-shouldered, compact bunch, berries very large and almost globular, and in flavour (which I ascertained elsewhere) it is somewhat of the character of Chasselas Musqué, but many times larger in berry. Some very good specimens of Vines in pots came also from Messrs. Lane, of Berkhampstead, as well as some other fruits in pots in a bearing condition, but the Grapes were undoubtedly the best.

Outside the tents were groups of Coniferæ, in pots, tubs, or baskets. Some of them had apparently only been recently removed from the ground, and suffered accordingly. Several of the more choice species, as well as some Japanese and other shrubs of recent introduction, were accommodated inside; the blanks rendered unavoidable by those who bespoke space, and did not send plants, being judiciously filled up in this way, and yet there was room.

One feature of the Manchester Show, which I believe has been adopted for some years, and is now followed by others, is to give prizes for a mixed collection of flowering and fine-foliaged plants, the judicious mixture of the two being more agreeable to look upon than either alone. Mr. Baines's collection had a decided advantage in this respect over those he was opposed to, but in some other classes the difference was less perceptible, while in the case of fruits it was, of course, in some cases difficult to decide; but it is not the purpose here to criticise the judgment, for I believe the decisions were not arrived at without much trouble and difficulty by those engaged, and I am not sure if they were completed until several hours after the public had been admitted. Here, again, the managers were at fault, and, no doubt, the judges felt annoyed at their position; in fact, the early part of the day was spent in the leisurely way that indicated everyone was making a holiday of it for himself, regardless of that important aggregate—the outside public knocking at the gates soon after midday. An energetic master mind such as Manchester surely possesses in many other matters, was certainly wanted here to push the thing on. The many highly creditable productions of horticultural skill would not then have been huddled together without order or design, and the public, by far the most important persons concerned in such matters, would have felt as much pleasure in viewing the productions presented to them at a distance of 2 feet further off, had they the means of ascertaining who were the exhibitors, and what honours they took; whilst, as before stated, if the visitor wished to satisfy himself on the latter point, he had to take up the card and make out, if he could (for some failed in doing that), the name of the exhibitor, and the class he exhibited in. The latter part of the information might as well have been printed. As it was, considerable time was spent in making it out.

Turning, again, to more pleasing parts of the Show, the samples of horticultural structures of glass were good, and those samples of ground vineries, as they are called, were ingenious. Boilers of various construction were also shown, some evidently capable of performing a large amount of work; but the condition of the ground rendered it impossible to employ the mowing machines, which were exhibited in numbers. The preceding, garden engines, syringes of several makes, and various other articles, constituted an attractive whole. I also noticed flower pots, and modes of hanging them up to poles, walls, and in other positions by prepared wirework of a simple design, while a large stand of fancy articles displayed the all-important croquet materials, and the scarcely less important, but most likely more transient rage of the time—the bicycle. The music-stands were plain, unassuming structures, one of them not being finished till late in the day of opening.

It would be wrong to conclude without giving credit to whom credit is due. The vegetable tent was well filled, and that, too, with productions of a creditable kind. Celery in a blanched condition, ripe Tomatoes, Scarlet Runner and Kidney Beans, with all the common vegetables, were in abundance, the only thing wanted being some marks indicating whether the articles exhibited were single dishes or collections of a certain number. This, and the careless handwriting, as an experienced exhibitor was heard to remark, rendered the whole a mass of confusion, and spoiled what otherwise would have been a good show. Let us hope, if the Royal Horticultural Society unite its fortunes to its more robust sister another time, it will appoint officers of more experience than those who directed its affairs this time, for the patrons of a show like that at Manchester ought to expect a different state of things from that presented last week, and the public also look for more information, while, perhaps, the party having the greatest cause to complain is the exhibitor. Let us hope the like will not be repeated next year. —A Correspondent.

ROSES, STRAWBERRIES, AND POTATOES AT OKEFORD FITZPAINE.

By a fortunate coincidence of circumstances I was enabled (July 2nd) to pay a long-promised visit to Okeford Fitzpaine; and as my arrangements permitted me to accept Mr. Radclyffe's hospitable offer of a bed, I had ample time to note down fully the most remarkable features of this remarkable place.

First, as to Roses. Of these Mr. Radclyffe has 1900 plants, mostly on the Manetti stock. Charles Lefebvre and Jules Margottin he still grows in great numbers. I was particularly struck with an oblong bed of Empereur de Maroc, as also with one of Souvenir de Malmaison, which does not seem to wait here, as elsewhere, for the cool autumnal nights to flower in perfection. One bloom measured 5 inches in diameter. Of the more uncommon kinds I noticed splendid specimens of Baronne Pelletan de Kinkelin, Baronne de Maynard, a pure Camellia-shaped white; Felix Genero, Madame Clémence Joigneaux, Madame la Baronne de Rothschild, Maréchal Vaillant, Marie Baumann, and Pierre Notting. Mr. Radclyffe is much pleased with Lady Suffield, a Rose new to me, although sent out four years ago by Mr. William Paul. In colour it is purplish crimson, in form perfect, and in habit robust. Growing side by side with other strong kinds, it has proved itself superior to them through this trying season.

Of Strawberries, there were fine beds of Frogmore Late Pine, Cockscomb, Dr. Hogg, and Lucas. Mr. Radclyffe makes a great point of setting-out runners as early as possible. I saw some which had been in the ground by July 1st doing well. We had some Alpines (the Galande variety) for dessert, and delicious they were. Your able contributor, "R. F.," would do well to grow them (if he does not already), as the birds never touch them. The Peach and Nectarine trees had not much fruit, but marvellously healthy foliage.

A large space is allotted to Potatoes, and very noteworthy among them was Thorncroft's Seedling, a strong-growing kind, with golden-tinted foliage. We had Rivers' Royal Ashleaf as good as ever for dinner, as also McLean's Little Gem Pea, the earliest wrinkled variety, and of excellent flavour.

Mr. Radclyffe is no miser over the treasures which he possesses. His gardens are thrown open freely to all who like to visit them. As many as 297 people in one day have availed themselves of this privilege. May he live long to enjoy his well-earned reputation, and impart to a grateful world from his vast stores of horticultural knowledge.—A. Middleton, *School House, Kingsbridge.*

EARLY PEACHES.

Pray allow me the indulgence of correcting my errors, owing entirely to my writing crabbedly and hurriedly. In paragraph 1 (page 57), I should have added after "England" "where only one now grows." In paragraph 3, after "curious," I should have said "creation," not "creature." Allow me also to add that the Early Beatrice Peach has small kidney-shaped glands and large flowers. The Early Louise Peach has small kidney-shaped glands and small flowers. Both are white at the stone.

I have to-day (July 22nd), gathered the last of my fruit of these two kinds from some fine trees in my cold orchard house. They were dead ripe, and measured respectively 7½ and 8½ inches in circumference; the Early Beatrice will not, therefore, prove a small Peach when well cultivated. Its colour was

deep crimson over its whole surface, and its flesh was also tinted to some depth with the same colour.—Thomas Rivers.

THE ROYAL HORTICULTURAL SOCIETY'S MANCHESTER SHOW.

Table Decorations, Bouquets, &c.— The table decorations, as well as the bouquets, shown at the Manchester Exhibition, though not so numerous in the former case as in the latter, were well arranged and attracted considerable attention, especially from the female portion of the company. First and second special prizes were offered by William Wilson, Esq., and a third prize by Mr. John Shaw, for a vase epergne, or centre-piece for the table. As much of adverse criticism was passed on the judgment in this class, we may announce that the Judges were the Rev. S. Reynolds Hole, Cannton Manor, Newark; Mr. William Ingram, the Gardens, Belvoir Castle, Grantham; and Mr. Charles McDonald, the Gardens, Woodstock Park, Inistioge, Ireland—men whose very names would be an assurance that they would take to such a judgment as this all that cultivated good taste required to be applied. The first prize was given, and most deservedly, to Mr. R. S. Yates, Sale, Cheshire, for a stand of flowers that was to some extent a happy breakaway from the somewhat stereotyped form of the Marchian designs to be met with at almost every exhibition. The stand was an elegant design in silver, of a Palm supporting a shallow Grape dish, and in this was most tastefully and elegantly arranged a splendid bunch of choice flowers, the apex being formed of a spike of the pure white Crinum giganteum, with Oncidium, white Moss Roses, Gardenia Fortunei, Lælia purpurata, Allamanda Schottii, Stanhopeas, Stephanotis floribunda, relieved by and interspersed with fronds of Ferns, &c., and having flowering-shoots of Stephanotis floribunda falling away from the base of the bunch in "admired disorder." There was a happy combination of elegance, beauty, colouring, and proportion, and they who so bitterly cavilled at the judgment, must have had a slavish regard for mere steorotyped designs after the Marchian model. Moreover, the elegant arrangement almost hid the base of the stand, and it was solely a splendid bunch of flowers most tastefully arranged, quite "a pretty dish to set before a king."

The second prize was awarded to Mr. J. Delamere, Oxton, Cheshire, who had a pedestal supporting two glass dishes, one almost at the base of the design, the other near the top. The pedestal or base of the design was lined with the silvery-variegated Acer negundo, and leaves of Wistaria sinensis. The flowers in the glass dish rested on a base of Lycopodium, which served as an edging, and was composed of Roses, Fuchsias, Gloxinias, Pelargoniums, Bougainvillea glabra, elegantly intermingled with shoots of Lonicera aureo-reticulata, and leaves of Caladium Bellaymei, C. argyrites, and Cissus discolor. The apex consisted of a vase of Adiantum cuneatum. Unfortunately for the Judges, the intense heat soon told on the flowers, &c., and by the afternoon this design looked pitiable indeed. It was past the stage of criticism. No doubt it must have been a praiseworthy design when first arranged.

The third prize went to Mr. W. S. Dobson, of St. James's Street, London, and it was respecting this stand a great deal of unpleasantness occurred. It was an epergne of the Marchian type, having a large base filled with flowers, the centre being a kind of circular looking glass, from which rose at the sides three small bouquet-holders. From the centre of the glass rose a glass support, bearing at the top three small glass baskets in the form of an inverted cone, suspended by glass rings. The base of this design was somewhat elaborately filled with flowers, consisting of red and white Roses, Phalænopsis amabilis, Oncidiums, Picotees, Gardenia Fortunei, and other fragrant flowers; these being relieved by Fern fronds, &c. The small glass vases were filled with small bouquets of Orchids; and the baskets suspended from the top filled with Oncidium, Stanhopea, Stephanotis floribunda, with small bits of Fern fronds. At first sight the eye was much attracted by this arrangement, perhaps to a great extent because it was a copy of the style we have been accustomed to regard as the *ne plus ultra* of dinner-table decorations. A second look took in the fact of how much the design owed to the stand itself, and then there followed the impression that there was a commonness about the vase, while it was utterly out of proportion to the rest of the design. The longer one looked at it the less one liked it; on the other hand, the design to which the first prize was awarded grew in favour as it was more minutely examined; and in connection with this it may be remarked, that it were much better the decisions of the Judges were regarded as final on these occasions. It did appear to betray a great want of courtesy to their brethren, that two other Judges should have gone down to the tent containing these decorations and there openly insulted the decision of their fellow censors while the tent was crowded with visitors, to the subversion of good order, as the other exhibitors placed first and second could not but feel aggrieved at the reflections so openly cast on the judgment.

In the awarding the prizes for two bouquets for the hand in Class 36, some confusion occurred owing to the two best bouquets having been overlooked by the Judges. These came from Mr. J. Delamere, Oxton, and eventually they were awarded equal first prizes with those exhibited by Mr. R. S. Yates, Sale. The bride's bouquet, exhibited by Mr. Delamere, consisted of Phalænopsis amabilis, Stephanotis floribunda, white Jasmine, and small white Roses, most elegantly intermingled with bits of scented Pelargoniums and Adiantum cuneatum; the base was formed of Pteris serrulata and leaves of Caladium argyrites. The ball bouquet consisted of a centre of red Roses, around which was Stephanotis floribunda and light Fuchsias, and towards the base erect-flowering Gloxinias, Bougainvillea glabra, high-coloured French-spotted Pelargoniums, white Orchids, Roses, &c., the flowers resting on an edging of Adiantum and leaves of Cissus discolor. These bouquets were elegantly proportioned and exquisitely arranged. The bride's bouquet shown by Mr. R. S. Yates was composed of Gardenia Fortunei, Eucharis amazonica, Stephanotis, white Tea Roses, and Crinum, resting on a base of Adiantum and leaves of the Orange and Caladium argyrites. Among the flowers were, dotted here and there, sprigs of the white-flowering Hoteia japonica. The ball bouquet was composed of the Crinum, red Moss Roses, Stanhopea, Stephanotis, yellow Tea Roses, Lælia purpurata, with scarlet Tropæolum in small clusters, resting on a base of Davallia and Adiantum. The composition of other bouquets in this class need not be particularised; and of the bouquets shown by amateurs, it may be said that they did not call for special remark.

Of the special prizes given by Mr. H. Birley, M.P., for eight varieties of cut flowers, the first was taken by Mrs. E. Cole & Son, of Withington, and consisted of Ixora coccinea, I. Colei, a handsome white species, Kalosanthes punicea, Eucharis amazonica, Dipladenia crassinoda, D. amabilis, Allamanda grandiflora, and Erica venosa. These were arranged on a Dahlia stand for twelve flowers, and the exhibitors filled up the vacant back row by adding specimens of four forms of Ixoras—viz., javanica, amboynensis, Alexandrina, in the way of amboynensis, and having orange flowers spotted with crimson, and salicifolia. Altogether this was a most interesting and instructive stand of flowers. Mr. R. S. Yates was second with flowers somewhat roughly arranged in a deal box, and comprising Crinum giganteum, a showy Amaryllis, Oncidium flexnosum, Cattleya Loddigesii, Gardenia Fortunei, &c., &c. Third, Mr. S. Barlow, who had some nice flowers arranged in an ornamental flower pot.

New Florists' Flowers.—Scarcely so many flowers as might have been expected in so renowned a plant district were submitted to the Floral Committee. Messrs. Downie, Laird, & Laing staged some of their new Gold and Bronze Zonal Pelargoniums, to one of which, a finely-marked variety by the name of Impératrice Eugénie, a first-class certificate was awarded. It has a golden leaf ground, a reddish chocolate strongly-marked zone, and in the character shown will make a most effective bedding variety. Mr. C. Turner, Slough, received first-class certificates for Picotee Admiration, a heavy rosy purple-edged flower of the finest quality and fullest substance, the petals large and stout; and Miss Turner, a medium light rose-edged flower, full, and finely marked. First-class certificates were awarded to Mr. C. J. Perry, Castle Bromwich, Birmingham, for Verbenas—Rising Sun, glowing salmon red, with small white eye, surrounded by a rich deep maroon ring; and Butterfly, warm flesh, with a striking crimson ring round a pale eye: two flowers that fully sustain Mr. Perry's reputation as a raiser of new kinds. Mr. Perry had also the Rev. S. R. Hole, R. H. Vertegans, Ada King, Rev. J. Dix, and others, of which something will be said by-and-by. The deceptive properties of light were somewhat singularly illustrated by a new bedding Lobelia, named Favourite, furnished by J. Taylor, Esq.; under canvas, and in the very subdued light, it had the appearance of a deep violet hue, in which form it would have proved a distinct and valuable variety. When exposed to the full glare of light outside the tent, the charm was dispelled, and the ordinary form of a dwarf-growing blue bedding Lobelia was seen. Mr. F. Perkins had some blooms of his new Perpetual Picotee Prince of Orange, which fully maintains its high reputation; and Mrs. E. Cole & Sons had their showy Ixora Alexandrina, described above. The other subjects were but of small interest.

Vegetables.—The show of Vegetables was on a tolerably extensive scale, one large tent being entirely filled with them. Many good examples were shown from the gardens of the rich nobleman, as well as from the plot of the humble cottager. Vegetables, however, although they are the most important and useful of the products of a garden, never receive at an exhibition that amount of attention or admiration to which they are justly entitled. They are to the general visitor certainly less attractive in appearance than flowers or fruit, and we can thus understand how he should pass them by. We are, however, at a loss to understand why so many gardeners themselves, who understand the difficulty and importance of their cultivation, should take so little interest in their exhibition. The present season, so far, has been tolerably favourable for the growth of vegetables.

Peas, the king of vegetables, were shown largely and well; Laxton's Supreme taking the lead a long way for size, length of pod, and beauty of appearance. Messrs. Carter & Co., who hold the stock of this Pea, exhibited the same in fine condition, and some half a dozen other varieties—viz., Laxton's Quality, Laxton's Quantity, Laxton's Fine Flavour, Laxton's Manifold, all so nearly resembling one another, and inferior to Supreme, as to be altogether undesirable. Carter's Hundredfold seems to be a fine variety, although much in the way of No Plus Ultra. Celery, although Manchester is the head-quarters for the cultivation of this esculent, was not so well shown as might have been anticipated. Turnips and Carrots were, in general, particularly clean and fine. Cabbages were, as a rule, poor, and very few were shown.

Potatoes were clear and good, and some good Onions were also shown.

In Class 38, for twelve dishes of vegetables, the first prize, a silver cup of the value of five guineas, was offered by Sir James Watts; the second and third by Messrs. T. Green & Son, of Leeds. Mr. D. Lumsden, Bloxholm Hall, Sleaford, was placed first for a very excellent collection, in which was a splendid tray of Laxton's Prolific Long-pod Pea, Prince of Wales Kidney Potato, good Cauliflower, White Dutch Turnips, Short Horn Carrots, Tripoli Onions, Broad Beans, Kidney Beans, Dale's Conqueror Cucumber, Globe Artichokes, Giant Green Orach, and the Rat-tail Radish. Mr. J. Smith, gardener to H. K. Balstone, Esq., Hallcar, Altrincham, was second; his collection contained excellent Celery, very fine Tomatoes, Mushrooms, Vegetable Marrows, Carrots, &c. Mr. J. Stevenson, Lark Hill, Timperley, and Mr. Dennis, gardener to K. H. Ainsworth, Esq., were placed equal third, all with good collections. There were in all thirteen competitors.

In Class 39, ten dishes of vegetables, the prizes were offered by Arthur H. Heywood, Esq., the Proprietors of the *Manchester Examiner and Times*, and Mr. John Shaw. Messrs. T. Snowden & Sons, Thirsk, Yorkshire, were awarded the first prize; in their collection were splendid Peas, Tomatoes, Broad Beans, two very fine long Cucumbers, and splendid Turnips. Mr. T. Bailey, gardener to T. T. Drake, Esq., Shardeloes, was second, and had very fine Lisbon Onions, capital Vegetable Marrows, and Cauliflowers somewhat too large, &c. Mr. W. Cragg, Timperley, was placed third, and in his collection were truly splendid Lisbon Onions. There were twelve competitors in all.

Class 40, was for the best eight dishes of vegetables, the prizes being offered by John Radcliffe, Esq., and Benjamin Whitworth, Esq. Mr. C. Frisby, gardener to H. Chaplin, Esq., Sleaford, obtained the first prize. His collection contained good Ne Plus Ultra Peas, Carrots, Walcheren Cauliflowers, Potatoes, &c. The second prize went to Mr. J. Smith, gardener, Hallcar, Altrincham, in whose collection were good Myatt's Prolific Potatoes, Finland Yellow Turnips, Celery, French Early Horn Carrots, &c. Mr. W. Dean, Sale Moor, was placed third.

In Class 41, six dishes of vegetables, the prizes offered by the Proprietors of the *Manchester Courier*, Henry Stubbs, Esq., and Benjamin Whitworth, Esq., there was a very spirited competition between twenty-three exhibitors. The first prize was awarded to Mr. Frisby, who staged a very fine lot; the second to Mr. J. Smith, Altrincham; the third to Mr. J. Pottle, gardener to B. D. Colvin, Esq., Bealing's Grove, Woodbridge, Suffolk.

In Class 42, four dishes of vegetables, prizes offered by James Carlton, Esq., and Hugh Birley, Esq., M.P., the first prize was awarded to Messrs. Snowden & Sons, Thirsk, Yorkshire; the second to Mr. W. Brownhill, market gardener, Sale, Cheshire, both of whom exhibited excellent lots.

Cottagers' Classes.—In these there were some very meritorious exhibitions. It was pleasing also to notice the immense interest taken by cottagers in this contest, and to hear the animated discussions on the justice of the various awards, and the merits of the various articles. Of the flowers and fruit exhibited, less can be said than on the vegetables, which were much the largest in quantity and the richest in quality. The window plants comprised the usual assortment of leggy Pelargoniums, with here and there a flower. The most meritorious plant was that of a Lilium auratum, well flowered, to which we should have given the first prize. Stocks were well shown by Mr. W. Clark, but these are true cottagers' plants. There was a good competition for the prize for herbs, in which Mr. H. Biddles, Loughborough, was successful. Gooseberries were not so well represented as might have been expected of Lancashire, and few of them were ripe, the season being too late for that fruit. Very excellent collections of vegetables were staged by Mr. W. Renshaw and Mr. W. Clark, who obtained the first and second prizes respectively. Mr. Renshaw's Potatoes and Turnips; Mr. Clark's Onions; and Mr. Biddles's Peas, Beans, &c., were such as would do credit to the best cultivator, and deserve all our praise. This part of the Exhibition in the provinces we are glad to see, but we hope to see it still more encouraged.

Horticultural Implements and Structures.—In this department the Manchester Show fell below its predecessors at Leicester and Bury, both in variety and number. The exhibitors here had the disadvantage of being placed in the lefthand corner, where few people cared to stroll, so that much of merit was on this account unseen by the great majority of the visitors. This was much to be regretted, as many of the exhibitors must have been at considerable expense in bringing to the Show the articles exhibited, and some of these were of sterling merit.

We must first notice the very splendid skeleton span-roofed orchard house, 80 feet in length, exhibited by Mr. Foster, of Beeston, Nottingham. It might be called a model of what an orchard house should be, for its elegance, lightness, and simplicity of construction, and its easy and perfect mode of ventilation; the latter being effected by a connecting longitudinal rod worked by a simple set of cogwheels, by which a house 100 feet in length is easily ventilated by one's finger. This house is very similar to those erected in Mr. Pearson's nursery at Chilwell, which have given so much satisfaction, and are so justly admired. Mr. Foster also showed models of his new patent boiler, which was lately recommended highly by Mr. Pearson in these columns, and which we believe ourselves to be admirably constructed and extremely efficient.

Messrs. Messenger, of Loughborough, exhibited several examples of hothouses, many of them exceedingly well adapted for their intended purpose, all in that light and graceful style peculiar to Messrs. Messenger. In one small house, a very excellent system of applying bottom heat worthy of especial notice was shown. Messrs. T. H. P. Dennis & Co., Chelmsford, had several forms of hothouses, and a number of their large and powerful boilers. Messrs. Cranston exhibited their new patent boiler, which is of rather a novel construction. Mr. Grimshaw, Manchester, had on view specimens of a double saddle-back boiler.

Messrs. Ormson, of Chelsea, exhibited examples of several new patent economic boilers. One is called Ormson's patent concentric saddle boiler, the name of which partly explains its peculiarity of construction, it being a sort of two half-circular saddles. It is in our opinion a very excellent and powerful form. Ormson's patent convoluted boiler is a square saddle-back, with the upright sides of the interior convoluted so much as nearly to close over the fire. We think in this that the action of the fire will not have the effect intended. Ormson's patent tubular boiler is a form of the square saddle-back, having a number of tubes crossing over the top of the fire, thus making it a saddle-tubular. We approve of this form. It is a pity, however, we think, that a great firm like this should not confine themselves to one approved form, instead of every season introducing something novel which is going to surpass all others, but which in another season is discarded for again another. We do not think that the boilers of to-day are in the least more powerful or economical than they were years ago, notwithstanding their multitudinous changes of form and fancy styles. Messrs. Ormson exhibited several splendid drawings of hothouses and conservatories on a large and magnificent scale; also a design for the laying-out of a nobleman's or gentleman's kitchen garden of two acres, with a gardener's house, rooms, offices, &c., all very complete, and in excellent taste.

Messrs. Weeks & Co. exhibited their patent tubular boiler, &c., and there are few to surpass it. Specimens of flower pots were exhibited by Mr. R. Saukey, Bulwell Pottery; and Messrs. W. Tickle and Son, fire-clay manufacturer, Maryport, had on view examples of rustic work in the form of seats, flower stands, &c.

Mr. W. Rendle exhibited examples of his new patent plant-protectors, which for amateurs may be desirable enough in the way of protecting small plants. There is much ingenuity displayed in their construction, yet they are very simple, cheap, and easily adjusted.

Mr. W. S. Dobson, 19, St. James Street, Piccadilly, exhibited a splendid collection of dinner-table decorations, deserving of high praise; and Messrs. Green exhibited several examples of their improved lawn mowers, garden seats, and rollers, as likewise did Messrs. Ransome & Sims, of Ipswich; and a number of seats, flower stands, baskets, &c., in wirework, were also exhibited by Messrs. Holliday, wire-workers, London.

Floral Committee. *July 20th.*—Rev. J. Dix in the chair. Mr. W. E. Dixon was awarded a special certificate for a very fine mass of Anæctochilus Lowii; the cultivation of this was considered so very superior that a medal was also recommended. Messrs. Bell & Thorpe received a special certificate for twelve Coleuses. Mrs. E. Cole & Son exhibited a very fine well-grown plant of Ixora Colei with white flowers; a special certificate was awarded, and a medal recommended. Mr. Williams, Holloway, sent a new and distinct Todea named pellucida intermedia; a first-class certificate was awarded. Cibotium Schiedei forcans and Cordyline indivisa latifolia also received first-class certificates. These were three of the finest specimens Mr. Williams has ever exhibited. Mr. Perry received first-class certificates for two seedling Verbenas, Butterfly and Rising Sun. There were several others of merit in this collection, but not in condition. Messrs. Barron and Son, Borrowash, exhibited Abies Douglasii acutifolia, a seedling, to which a first-class certificate was awarded for its distinct character. Mr. Turner, Slough, brought a magnificent collection of Carnations and Picotees, some of the finest flowers ever seen, and which must have astonished our northern friends—among them two seedling Picotees of great merit, Miss Turner, a lovely scarlet-edged flower, and Admiration, a light purple heavy-edged. The last is one of the finest varieties ever exhibited; a first-class certificate was awarded to each.

Messrs. Stansfield & Son, Todmorden, received first-class certificates for the following Ferns—Polystichum Stansfieldii; Blechnum Spicant lancifolium anomalum, and projectum forcans; Lastrea montana crispa; Athyrium Filix-fœmina Stansfieldii; also a second-class certificate for Athyrium F.f. Staleyi. J. E. Mapplebeck, Esq., was awarded first-class certificates for the following Ferns—viz., Asplenium marinum ramosum Claphami; Athyrium F.f. amœnum, Craigii, enlophos, furcillans, Mapplebeckii; Polypodium vulgare semilacerum robustum; Scolopendrium vulgare hemionitoides, crispum latum multifidum, and semipinnatum; second-class certificates for Scolopendrium vulgare Gloveri, spirale nanum, and perafero-cornutum; Polypodium vulgare kraspedomenon, and Lastrea Filix-mas foliosa. E. J. Lowe, Esq., exhibited a large number of seedling Ferns, and received first-class certificates for the following—viz., Scolopendrium Victoriæ, cuticulare, rugosum Bellairsiæ, tridentiferum optandum, poluklenon, thu-

sanasson, gloriosum, marginato-undulatum, and decorum; Polystichum angulare lineare laxum, coronare, oxyphyllum Elworthii; Athyrium F.f. Fraseri, amœnum, Hookeri, and Edwardsii; Polypodium caudatum; Asplenium marinum capitatum and imbricatum.

The prizes were distributed on the 21st inst. by the Mayor of Manchester, in the unavoidable absence of Prince Teck. On the same day the Horticultural Congress commenced, the Duke of Buccleuch, President of the Society, taking the chair. The first paper read was that of Mr. Cramb, entitled "What soil is best suited for the production of Grapes?" This and other papers we shall publish.

The following statement shows the financial result of the Show to have been highly satisfactory. The sums received were:—

July 19th, Five-shilling day	£99	0	0
,, 20th, ,, ,, ...	£210	5	0
,, 21st, Half-crown day	£539	1	10
,, 22nd, Shilling day	£352	11	8
,, 23rd, ,, ...	£286	17	0
,, 24th, Sixpenny day	£128	0	0
	£1645	15	6

In addition to the above amount, the sum of £112 was received for tickets sold previous to the opening of the Show, and £100 from the refreshment contractors, making the total receipts £1857 15*s.* 6*d.*

ENTOMOLOGICAL SOCIETY'S MEETING.

The last meeting of the season was held at Burlington House on the 5th instant, Mr. F. Smith, Vice-President, in the chair. Amongst the new books presented since the last meeting to the Society were the publications of the Royal, Linnean, and Stettin Societies, the fourth volume of Harold & Gemminger's Catalogue of Coleoptera, and the first part of a new periodical work on exotic Butterflies, printed in chromolithography by Mr. Butler. Amongst the visitors at the meeting were Professor Schiodte, of Copenhagen, and Drs. Kaaf, of Darmstadt, and Candeze, of Liege. Mr. J. J. Weir exhibited a Tick of gigantic size, belonging to the genus Ixodes, found on a live Greek tortoise. The Chairman mentioned an instance in which he had been attacked by one of these insects. Mr. Barclay called the attention of the meeting to the injuries committed on the sugar canes in the island of Mauritius, by numbers of insects of the genus Coccus, known by the inhabitants under the name of the "Pou blanc." The Chairman communicated a drawing by Mr. Ford of the beautiful luminous larva which he had exhibited at the last meeting, and called attention to Mr. Andrew Murray's memoir on luminous larvæ, recently published in the "Proceedings" of the Linnean Society. He also exhibited living specimens of Pissodes notatus from Bournemouth, and of the field Cricket, Achatu campestris, from Farnham.

"Notes on the Entomology of Adelaide," by Mr. C. A. Wilson. These notes were of a desultory character, but amongst them the author mentioned the discovery of the genus Xenos in South Australia, parasitic in the bodies of wasps of the genus Paragia. Mr. Edwin Brown sent some "Observations on Australian Cicindelidæ," with description of a beautiful new species captured by Mr. Du Boulay, Tetracha Adonis.

The Honourable T. De Grey exhibited and made some observations on Cosmopteryx Aurichalcea, and on a dark variety of Carpocapsa Juliana; and Mr. Wakefield made some remarks on the insects of New Zealand, which he affirmed to be very few in number, and by no means striking in their appearance. He had only obtained fourteen species of Butterflies, and 250 kinds of Moths, amongst which the common English Clear-wing Trochilium tipuliforme had been introduced from this country with Currant trees. Mr. S. Stevens stated that the fine collection of insects of the late Mr. Turner, M.P. for Manchester, would be sold by auction in the course of the autumn.

FINDERNE FLOWERS.

The Findernes were Lancastrians, so when, during the War of the Roses, the Yorkists were ascendant, the ruin of the Findernes was consummated, and Edward IV., in 1473, granted "all the manors and hereditaments within the kingdom of England lately belonging to William Finderne," to Robert Radecliffe; no wonder the Radclyffes still delight in Roses. Burke, in his "Vicissitudes of Families," relates as follows:—

"The hamlet of Finderne, in the parish of Mickleover, about four miles from Derby, was, for nine generations, the chief residence of a family who derived their name from the place of their patrimony. From the time of Edward I. to those of Henry VIII., when the male line became extinct, and the estate passed, by the marriage of the heiress, to the Harpurs, the house of Finderne was one of the most distinguished in Derbyshire. Members of it had won their spurs in the Crusades, and at Cressy, and at Agincourt. The sons were brave and the daughters fair: one, alas! was frail as well as fair, and the heaviest blow that ever fell on the time-honoured race was when Catherine Finderne, about the middle of the fifteenth century, consented to be the mistress of Henry, Lord Grey of Codnor. In the remarkable will of that remarkable nobleman, who, in 1463, obtained a licence from the king for the transmutation of metals, provision is made for his illegitimate issue, by Catherine, in terms which were, no doubt, deemed unexceptionable in those days, but which would be deemed highly offensive in our own. The territorial possessions of the Findernes were large: the Findernes were High Sheriffs, occasionally Rangers of Needwood Forest, and Custodians of Tutbury Castle, and they matched with many of the best families. Finderne, originally erected *tempore* Edward I., and restored and enlarged at different periods, was in 1560 one of the quaintest and largest mansions in the midlands. The present church, then the family chapel, had rows of monumental brasses and altar-tombs, all memorials of the Findernes. In 1850, a pedigree research caused me to pay a visit to the village. I sought for the ancient Hall. Not a stone remained to tell where it had stood! I entered the church—not a single record of a Finderne was there! I accosted a villager, hoping to glean some stray traditions of the Findernes, 'Findernes!' said he, 'we have no Findernes here, but we have something that once belonged to them; we have Findernes' flowers.' 'Show me them,' I replied; and the old man led me into a field which still retained faint traces of terraces and foundations. 'There,' said he, pointing to a bank of 'garden flowers grown wild,' 'there are the Findernes' flowers, brought by Sir Geoffrey from the Holy Land, and do what we will, they will never die!'

"Poetry mingles more with our daily life than we are apt to acknowledge; and even to an antiquary like myself, the old man's prose and the subject of it were the very essence of poetry.

"For more than three hundred years the Findernes have been extinct, the mansion they had dwelt in had crumbled into dust, the brass and marble intended to perpetuate the race had passed away, and a little tiny flower had for ages preserved a name and a memory, which the elaborate works of man's hand had failed to rescue from oblivion. The moral of the incident is as beautiful as the poetry. We often talk of 'the language of flowers,' but of the eloquence of flowers we never had such a striking example as that presented in these flowers of Finderne:—

'Time, Time, his withering hand hath laid
On battlement and tower,
And where rich banners were displayed,
Now only waves a flower.'"

BRITISH FERNS.

Having lately paid a visit to Messrs. Ivery's well-known establishment at Dorking, and enjoyed the opportunity of examining their extensive collection, perhaps a few notes of some of the more recent introductions might not be uninteresting. Talk of florists' flowers, why we shall soon have such a variety of our native Ferns as will put into the shade any collection of florists' flowers that we have, and with differences so minute, that it would require one to be thoroughly well acquainted with them to know their names. I am not about to give a mere catalogue of all that are distinct and good, but only to notice such as are not so well known, but which are deserving a place in any collection.

Let me take the Lady Ferns first as in duty bound, and first of all Athyrium Filix-fœmina Girdlestoneii, a lovely variety discovered by the Rev. Mr. Girdlestone, and named after him. Nothing can be more delicately lovely than the fronds of this exquisite Fern. The leafy part of the pinnules is wanting, only the veinlets are present, giving it quite a skeletonised appearance; and when the fructification appears it adds still more to its singular beauty. Athyrium Filix-fœmina Frisellæ nanum.—All Fern-lovers are acquainted with the very singular variety called Frisellæ, so very unlike a Lady Fern. This is a very remarkable variety of Frisellæ, very dwarf, the fronds not being more than a foot in length, and, instead of drooping over as in the older variety, are stiff and blunt-ended. Athyrium F.f. formoso-cristatum is one of the most elegant of many crested forms of Lady Fern, and not only curious but really handsome. Athyrium F.f. lanceolatum is very delicately cut in the fronds and pinnæ, and distinct in character, the slender pointed form of the former marking it as distinct. Athyrium F.f. Iveryanum, a remarkable variety, apparently having an analogy with Frisellæ and Fieldiæ, as it has the short stiff fronds that mark Frisellæ nanum, but with the peculiar forked

form of the pinnæ of Fieldiæ. It is dwarf in habit, and very stiff. Athyrium F.f. plumosum (Axminster var.), is one of the most lovely, if not positively the most so, of all the Lady Ferns. It differs from the ordinary variety of plumosum in being still more feathery and light, and when seen in large plants, as I saw it at Mr. Ivery's, is surpassingly lovely.

Besides these there were, of newer kinds, Bellairsiæ, Clarkiæ, eroso-cristatum, scopiæforme, curtum, and grandiceps pumilum.

The Male Fern has produced varieties not quite as numerous but as fine, though not, perhaps, so delicately beautiful as the Lady Fern. Among them I noticed Lastrea Filix-mas Ingramii, a very beautiful form, the fronds sometimes being 3 and 4 feet in length, while the narrow deeply-cut pinnules gave it a very distinct appearance. Lastrea F.mas cristata angustata, a very beautiful form of the old cristata, itself one of the very finest Ferns we have. The fronds are narrow, the crest at the end of the fronds being very close and crispy, while the pinnæ are also shut and closely tufted. Lastrea F.mas crispa, one of those varieties that makes us wonder if it can really belong to the same family as the stately Male Fern of our hedges, the fronds being only about 9 inches high, the pinnæ being closely placed together and deeply imbricated, so that it has altogether a most crisp appearance. Then there are Lastrea Filix-mas cristata Iveryana, cristata crispa, foliosa, &c.

But I question whether for real beauty any of our native Ferns can vie with the varieties of Polystichum, especially those of the proliferum section. What more beautiful than a well-grown plant of proliferum Wollastoni, of which I have a plant now before me with fronds 2 and 3 feet in length? while their being, if not altogether, at any rate very nearly evergreen, is a great recommendation.

Of the varieties of Polystichum angulare there are Bayliæ; the fronds of this variety are of a very deep green, the pinnules very sharp and pointed and closely set on, so as to form a very attractive variety. Cristatum.—In this the point of each frond terminates in a thick crispy tuft, and corresponds altogether very much to the cristata form of Lastrea F. mas. Oxyphyllum.—The fronds are very scaly, and in Jackson's variety even more so. It is a very beautiful variety, the stalks being slender and graceful. Plumosum.—A beautiful feathery form of Polystichum, analogous to the plumose variety of Lady Fern, and, like it, exceedingly graceful and beautiful. Proliferum Holeanum.—A most lovely Fern, the pinnules separated somewhat widely, very pointed. Rotundatum.—A very remarkable variety; the fronds being of a very dark green colour, and the outline of the pinnæ is so far rounded as to give it a very distinct appearance. Lineare.—Dark green fronds, very spare; indeed it is very analogous in the Polystichums to Girdlestonei in the Athyriums. But perhaps the most beautiful of all the new Polystichums is the very fine Polystichum angulare Pateyi, discovered in Dorsetshire by Mr. Patey, after whom it is called. The colour of the green is light. The plant is very dense, owing to the overlapping of the pinnæ; the pinnules being deeply incised. It is a very rare variety, there being at present only five plants of it in existence, and these were obtained by cutting up the old stool. Mr. Ivery has not succeeded in inducing it to bear spores. If it do not do so, some time must elapse before it can be generally grown, but it is certainly one of the grandest Ferns we have.

Besides these there are many other beautiful forms, such as laciniatum, laciniato-truncatum, Kitsoniæ, tenue, Wakeleyanum, and Stansfieldii.

Scolopendriums are as numerous as any; but with the exception of a few forms, such as crispum, marginatum, and its varieties, I do not care particularly about them. Of the Polypodiums, ramosum, pulcherrimum, acrocladon, cristatum, bifido-lobatum; of Asplenums, Harovii and incisum; and of Blechnum, concinnum, heterophyllum, and imbricatum, are distinct and curiously beautiful; and it is impossible to pass through this nursery, see pit after pit filled with these beautiful plants in all stages of growth, from the tiniest little seedlings to the large and magnificent plants we see at our metropolitan shows whenever Messrs. Ivery exhibit, without being struck with their immense variety, and with wonder that not more of these lovely plants are grown. We know that the demand for them is great. Mr. Ivery told me of his having sent them by the ten weight; but they are so readily grown, that, while each place has its fernery, it is a pity that some of these rarer and most beautiful forms do not find a place in it. Sitting as I am this moment, in the cool shade on this broiling hot day, and looking on many of those which I have alluded to above, they do indeed seem to me most lovely and deserving of the enthusiastic praise which a real lover of Ferns bestows on them.—D., *Deal*.

WINE PRESS.

On reading the instructions on "Wine Manufacture" by "Upwards and Onwards," vol. xvi, page 409, he says, "If there were, in addition, a large pestle and mortar." About ten years back I made a pair of zinc rollers 4¾ inches in diameter, 6 inches long, and fluted the whole length. (*fig.* 1); these I mounted in a wood frame (*fig.* 2); to run one in the other, and turned by a crank handle. They are moveable—open or close for Rhubarb, Gooseberries, or Currants. There is a hopper to fit on the top for the Gooseberries and Currants. I also made a small screw press (*fig.* 3). With the rollers we crush in one hour all the fruit we used to do in three-quarters of a day. The press takes about the same time as by hand, or only a little less time, but we obtain considerably more wine from the same weight of fruit. There are several wine-makers in this town; I lend the rollers and press to them, and for the use some send me a quart bottle of their wine at the time of bottling. If these sketches should be of any service to "Upwards and Onwards," or should be like further information how to make apparatus like them—I made my own patterns and castings, and fitted them up—I should be most happy to give it.—W. Stuttle, *Thornbury*.

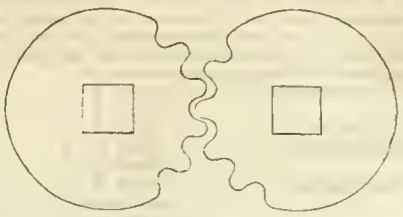


Fig. 1.—Zinc rollers, full size, 6 inches long; a portion of the teeth only shown.

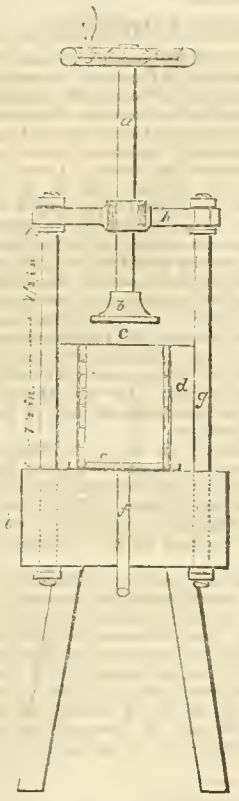


Fig. 3.—*a*, 1-inch iron screw, 16 inches long, worked by a hand wheel; *b*, zinc plate, 4¾ square; *c*, zinc box full of holes; *d*, wood box or casing; *e*, zinc plate full of holes; *f*, pipe to convey the juice away, and provided with a tin top; *g*, ¾ iron rods; *h*, cross bar with screw thread for the pin *a*; *i*, wood block 13 inches square, 6 inches thick. The wood legs are 2 inches in diameter, turned, and 14 inches long.

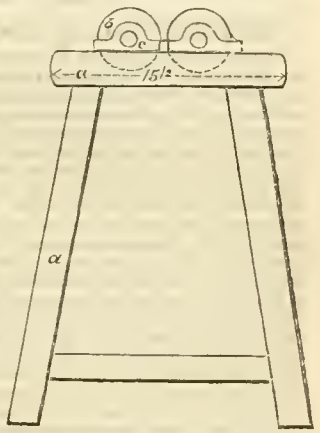


Fig. 2.—*a*, Wood frame, 2 feet high, 2½ inches deep, 1¾ inch thick; *b*, zinc rollers, 4¾ inches in diameter, 6 inches long; *c*, iron pedestals, moveable. The rollers are worked with a crank handle, 8½ inch centre.

THE SMALL TELTOW TURNIP.

Those of your readers who have travelled on the Continent, and have been while there a little gustatory, may have observed very frequently the pleasant smell arising from, and the flavour of, various soups. Both, for the most part, are given by the above kind of Turnip, which is, when served up like our common Turnips, very pungent, and to us English not palatable,

but to soups and stews it gives an exquisite flavour. It is like a Carrot in shape, and about the size of a moderate one. Its seed is remarkably small, and requires to be sown on fine friable or sandy soil. I sow my crop in the middle of June, but it may be sown in July. I do not observe this kind of Turnip in our English seed lists. It should be in every garden. —T. R.

NEW BOOK.

A History of Ornamental-foliaged Pelargoniums, with Practical Hints for their Production, Propagation, and Cultivation. By Peter Grieve. Second edition, enlarged. W. Blackwood and Sons, Edinburgh and London.

A striped-leaved Pelargonium, probably the same as Miller's Variegated, was introduced from France in the year 1724, but zone-leaved species had been cultivated in this country some years previously. Pelargonium zonale was in the garden of the Duchess of Beaufort in 1704, so was P. peltatum, the leaves of which have a circular purple blotch in the centre. A third African species is described by Ray as having silvered leaves, a fourth with a purple zone, and a fifth with golden foliage. He also mentions the Ivy-leaved as being introduced from the Cape of Good Hope, and flourishing in the Duchess of Beaufort's garden in 1701. We merely mention these as evidence that ornamental-foliaged Pelargoniums were known and prized much earlier than is usually supposed.

We are pleased to welcome this second edition of Mr. Grieve's book. It is full of instruction relative to its subject; and as evidence of its practical character, we will make a short extract from his directions how to raise new varieties.

"Let a dozen or more of the finest Green Zonal varieties be obtained, and also a like or a smaller number of the finest Gold and Silver Variegated Zonal sorts that are to be had. I will suppose them to have been all struck from cuttings during the months of August or September, and to be growing in pots, say, about 4 inches in diameter. They must be wintered in an ordinary greenhouse, giving the variegated varieties the advantage of a shelf near to the glass; and the temperature of the house must not be allowed to fall much below 45°, as a minimum, admitting air, however, freely when the weather will permit. Under this treatment the plants, both green and variegated, will continue to progress slowly during the winter months, and will require to be shifted into their flowering pots about the first week in February. The size of the pots for the Green Zonal varieties should not exceed 6 inches in diameter, and the same, or perhaps a size less, will be suitable for the variegated sorts; but great care must be taken that the pots for the latter sorts are well drained. They will all grow, and produce seed freely, in almost any moderately rich soil, avoiding peat, however; but I would recommend a soil composed principally of rotted turf, with the addition of a portion of leaf mould or well-rotted manure. It is better to avoid a very rich soil, as great luxuriance is not desirable.

"After they have been repotted, let them be well watered with a fine rose watering-pot, and replaced as before recommended, giving the variegated sorts, as being the most delicate, every possible advantage in regard to position, and keeping the house rather close and moist for a week or two, after which abundance of air may be given when the weather is favourable; but at the same time, so as to avoid anything like cold draughts. Let the plants have water only when they really require it, and let the pots be frequently turned round, so that all parts of the plant may have equally the advantage of being exposed to the sun and light.

"Early in the month of May most of the plants will be in flower, the variegated varieties as well as the green-leaved sorts. They may now be placed, in order to be operated upon, in some light and convenient position, such as the front of a greenhouse, or other light structure. Continue to give plenty of top air; but it will be advisable to keep the front lights closed, to avoid draughts, and also, to some extent, to exclude insects. A day temperature of not less than 70° will be found necessary, or, at least, most conducive to sexual development; and at this season (June—July), this temperature can generally be maintained without the aid of fire heat, while, by closing the house somewhat early, in accordance with the state of the weather, the night temperature will seldom fall lower than 50°.

"The time may now be said to have arrived when the intending cross-breeder is called upon to exercise his judgment in the selection of the parents of his future seedlings; and this is perhaps the most important part of the whole business.

"I have before observed that although the varieties of Variegated Zonal Pelargoniums already in the country are exceedingly numerous, yet comparatively few of them will, I suspect, be found to be eligible as bedding plants, on account of their delicacy of constitution or deficiency of vital or growing power. Perhaps the principal cause of this, in addition to the admitted debilitating influence of variegation itself, is the practice of selecting variegated varieties for the seed-bearing parent, using the green-leaved varieties only as pollen parents. Without wishing altogether to condemn this practice, I would, nevertheless, in most instances, recommend a contrary procedure—viz., to make the green-leaved variety the seed-bearing parent, and to use the pollen of the variegated sorts, my conviction being that in the vegetable as in the animal kingdom, the male is generally the most active in stamping the leading characteristics or peculiarities of its nature upon the progeny, while the constitution of the female is generally, to some extent, inherited by the offspring."

LAXTON'S SUPREME PEA.

Though the varieties of Peas are numerous, yet many are so little distinct that I am convinced several names are often attached to a variety. Probably a selection of eight good kinds is sufficient to ensure successional crops throughout the season. Laxton's Supreme should not be omitted, for I am of opinion that its qualities are all that can be desired. I have now several rows in full bearing, and nothing, as a Pea, can possibly be stronger, healthier, and more handsome. These were sown in trenches, as prepared for Celery, with an ample supply of manure from an old Melon bed, only covering the manure with 4 inches of soil to sow the seeds in. I presume the plants have overgrown themselves this season, measuring 6 feet in height. They bear in profusion large fine pods containing from seven to nine Peas in a pod, these being of a dark green colour, and of excellent flavour.—Henry C. Ogle, *Welwyn*.

TREES INJURED BY THE WEATHER—POTATOES.

Mr. Leach, Lord Portman's gardener, called to-day (July 20th), to see the Roses, Strawberries, fruit trees, and Potatoes. He gives much the same account as Mr. Robson (page 42). He says the magnificent Plane trees at Bryanstone are much injured, and have hardly a leaf left. Two fine Beech trees have died, and the Beeches generally, besides other trees, are in a sad plight. He has raised a splendid second-early Potato, called the Bryanstone Kidney, which he is going to give me. I showed him the American Potatoes; he admired their haulm and foliage. I also dug him up a tuber each of the Early Rose, Brezee's No. 4, and Climax. We thought Climax the best-looking. When it came it was the worst-looking of all the Americans. I tasted the Early Rose the same day, and Brezee's No. 4. They are exceedingly white in flesh, and I think will be good Potatoes, being very delicate in flavour, far more so than the English Potatoes, but they are not so rich as our Kidney Potatoes. Being hardly ripe, I cannot yet tell their merits.—W. F. Radclyffe.

CUCUMBER CULTURE.—No. 7.

The seed to raise plants for winter fruiting ought to be sown in the first week in September. The plants from this sowing will be strong and in full bearing by January or early in February, but a little fruit may be obtained long before this. The plants may be raised on a dung bothed in a house having the proper temperature, or in the house in which they are to be grown. As the general treatment has been described in previous articles, it is unnecessary to repeat it here, but there are some points in which it differs. The plants must be potted singlyin 3-inch pots when showing their rough leaves, and when the pots are full of roots shift the plants into 6-inch pots, which are sufficiently large till the time for planting-out. This should be done before the roots become very closely matted round the sides. If the plants cannot be turned out, they should be shifted into larger-sized pots as soon as their present ones become full of roots, but the sooner they are planted-out after they begin to grow freely the better.

It is a practice with many, indeed most, cultivators not to stop the plants until the original shoot or runner is long enough to reach the trellis. I think this gives a very slender weak stem, and as a preventive I take out the point of the shoot at the second joint, or immediately above the first rough leaf. This gives a strong shoot, and if more shoots show, they are picked out with the point of a sharp knife when little larger than a pin's head. A stick long enough to reach from the surface of the soil in the pot to the trellis is placed to each plant, and to this the runner is lightly tied, and not again stopped until it has grown two joints beyond the trellis; its point is then taken out. The shoots showing in the joints of the future stem are taken out with the point of a knife as soon as they appear, but allowing the leaves to remain for some time

longer, until there are a dozen or more good leaves on the trellis to elaborate the sap; then the leaves on the stem may be taken off. The shoots coming from the three highest joints must not be taken out, but left to produce vines or runners for furnishing the trellis.

When the plants are large enough to plant-out, the bed must be prepared. It may be made the full width at once, but I think the plants do best when only part of the width is formed at first; but the drainage, of course, is put in to the whole width, and covered with a layer of turf, or the rougher portions of the compost, not more than 2 or 3 inches thick. Along the front, next the wall dividing the bed or border from the hot-water pipes, soil may be placed, making it 15 inches deep, for it will settle down to a foot or less, and if it be 18 inches wide at top, with a base nearly twice that width, it will be sufficient at first. The plants ought not to be turned out in the bed until the soil be quite warmed through, and in temperature from 70° to 75°, though 85° will not injure the roots. The temperature of the soil ought to be determined by a ground thermometer plunged 1 foot deep, or not less than 6 inches.

The soil most suitable for winter is formed of two parts turfy loam, taken off 2 or 3 inches deep from the surface of a pasture where the soil is neither a very light nor yet heavy yellow or hazel loam, and thrown up in narrow ridges alternately with fresh horse droppings. It should be allowed to remain thus for six months, and when required for use it may be chopped-up, but not sifted. To the preceding add one part sandy turfy peat, chopping it up rather small, and mixing it well with the loam, and a half a part of white or river sand, well mixing the whole.

The plants should be placed about 9 inches from the edge of the bed which is next the pipes, or the front of the house or pit, and 3 feet apart, taking care to have the soil moist, so that only a gentle watering will be necessary at planting to settle the soil about the roots. In planting, do not put in the plants deeper than where the seed leaves were, nor make the soil very firm, keeping between the two extremes.

The soil should never be allowed to become so dry as to cause the foliage to flag, still it should be rather dry before water is given. Avoid over-watering, for if the soil ever become sour and saturated the roots will perish, or become inert, and the leaves flag when exposed to powerful sun. All watering up to February should be with rain water only, and at no less a temperature than 75°, nor exceeding 80°. In February liquid manure may be given once or twice a-week, and always at the above temperature, taking care not to apply the liquid too strong.

The atmospheric moisture required may be supplied by sprinkling the paths, walls, and other surfaces between 8 and 9 A.M., at noon, and at 3 or 4 P.M. This should be done from the time of planting up to March, except in very cold weather, when the noon syringing may be dispensed with, and in very dull, moist weather the morning syringing will generally be sufficient. On very fine days the plants may be lightly syringed overhead early in the afternoon, when the house is closed for the day. After February the atmosphere should be kept very moist, and the plants sprinkled or syringed overhead in the afternoon. It must not, however, be done with a close atmosphere; abundance of moisture must be accompanied with an abundance of air. The paths and other surfaces ought to be kept moist—more so in fine than in dull weather, at least the sprinklings will need to be more frequently repeated.

Ventilation must be very carefully managed, especially during sharp frosts. A piece of wool netting should be nailed over the openings, and care taken not to admit air in such quantities as to suddenly cool or dry the atmosphere, but admit it in moderation, and never with the view of lowering the temperature. Air should be given before the thermometer rises too high, and reduced before it falls too low. A little air ought to be left on night as well as day, and the lights may be opened when the temperature reaches 75°, if it is likely that sun heat will raise it to 85° or more, and the house may be closed at 80°, the ventilation being then reduced to its minimum. The true principle of giving air is to admit it early, and progressively with the increase of temperature, to secure a thorough change of air with plenty of sun heat, and to close the house with as much sun heat as possible, or consistent with the well-being of the plants. From sun heat 90° may be permitted, air being given when the thermometer rises to 75° if the temperature be likely to exceed 80°. To allow the temperature to rise above 85°, and then reduce it to 80° again by air-giving, would be wrong. Usually the more air plants have by night as well as by day, the better they thrive. The temperature by day should be from 70° to 75° without sun, and from 80° to 90° with sun and air; by night about 65°.

The evaporation troughs, which are indispensable, may be kept full of water until February, but they may then be filled with a solution of 1 lb. guano in twenty gallons of water. If to this is added one peck of soot, one peck of sheep's droppings, and ten gallons more water, we obtain an excellent liquid for watering the paths every evening when the house is closed; and upon a further addition of ten gallons of water, a first-rate liquid manure is formed, suitable for watering the plants once or twice a-week, but not till February arrives. The benefit derived from merely wetting the floors or walls is, that along with the moisture, ammonia is supplied to the atmosphere, and the plants are kept healthier and more free from insects. The temperature of the liquid used for damping the floors or walls should never be lower than the present temperature of the house, but, if anything, 5° higher.

If the border is not made to the full width at the time of planting, it should be extended as the roots of the plants begin to push through that portion first formed. The compost used for this purpose should have been kept for some time in the house before using it. The width of the border may be increased as the roots extend, and there is one advantage in knowing that the soil has not become sour or sodden by watering before it is occupied by the roots, and that these, in consequence of the gradual addition, must have pervaded every part. If the plants thrive, the full width of border should be attained in six weeks. If the surface of the border or bed become close, and the plants begin to lose vigour, they may in March or April, and every following month, have the surface soil removed, taking it clear away as far as the roots, and replacing it with a layer, varying from 1 inch to 1½ inch in thickness, of turf which has been kept in alternate layers with horse droppings for six months, chopping it up previous to use. The roots near the stem, and the adventitious roots springing from it, should be encouraged by covering them with the compost, so as to attract them into parts more remote from the stem.

Having, as above advised, stopped the leading shoot when two joints up the trellis, two or three shoots will start from the bases of the leaves. As only two are required, select the best and train them straight up the roof, keeping them 18 inches apart. If there be no signs of their fruiting, stop them at the sixth leaf; this will produce laterals, one of which must be trained as a continuation of the main shoot, the other treated as fruit bearers, and trained about 9 inches apart, so as not to be overcrowded. The leaders, as well as the side shoots, will produce fruit, and should all be stopped one joint beyond the fruit; but the side shoots, if a shoot is pushing from the same joint as the fruit, ought to be shortened to that, and it will most likely show fruit at the second or third joint. It must then have its point pinched out one joint beyond the fruit—at the fruit if there is a shoot coming from the same joint. The leaders must be preserved, stopping them, if not showing fruit, when the sixth leaf is formed, so as to encourage laterals. When the principal shoots reach the top of the trellis they should be kept at one joint beyond the fruit, or to the fruit joint if it have a shoot, and this until they become weak from bearing, in which case the old principal shoots must be replaced by fresh ones from the bottom of the trellis, always keeping the bottom of it well covered with young shoots for this purpose.

Thin-out the weak shoots soon, cutting away the unfruitful laterals and those that have become barren, so that those left may be trained moderately thinly and regularly. Clearing away a lot of entangled shoots should be avoided as much as possible, and the knife should not be used, except for cutting away weak parts, but the finger and thumb should be employed for pinching-off the points of the shoots, as the bleeding is not so severe, and no loss of leaves is occasioned.—G. ABBEY.

CUTTING DOWN YOUNG VINES TO OBTAIN TWO GROWTHS IN ONE SEASON.

IN 1865 I was anxious to prepare a quantity of extra strong young Vines in large pots, and not being very well off for a place to grow them in, they were put into a Muscat-house with a high temperature. This was after they had been shifted into 14-inch pots. Under circumstances over which, unfortunately, I could have no control, they were allowed to remain in the house till the Muscats completely covered the roof of the vinery,

and became gradually weaker and weaker from the want of light and air, so that they looked more like being sent to the rubbish-heap than ever becoming Vines that would bear a crop the following year. I, however, decided to cut them down to within a bud or two of the surface of the pot, and had them placed in a light house with a night temperature of 70°, with 15° to 20° more with sun heat by day. Water was sparingly applied, and they very soon burst their main buds, which, under ordinary circumstances, would not have moved till the following year. They came away with amazing vigour, and made magnificent Vines 10 feet long—the strongest I ever had under my care.

This season, on the 16th of March, I planted a house of Muscats, and the last week of May, after they had made fine growths 8 and 9 feet long, these were cut down as described above. They likewise soon burst their main buds, and are now twice as strong as they were when of the same length in their first growth. And where Vines planted one year are required to yield the finest possible crop the year following. I would strongly recommend this two-growths-in-one-season system as one that will produce a more vigorous Vine of a given length than if allowed to grow on at first.

All gardeners who have had the charge of Vines can scarcely fail to have observed how very strongly a Vine in a green unripened state, when growing vigorously, bursts its main buds when the laterals are closely stopped; and the same increase of dimensions takes place when a young Vine is cut down as I have described. It is necessary, however, in order to get season sufficient to ripen the second growth thoroughly, that the Vines be planted in March, and that the cultivator have a good command of heat, in the case of Muscats especially.—D. Thomson (*The Gardener.*)

NOTES AND GLEANINGS.

Mr. Ambroise Verschaffelt, of Ghent, has disposed of his horticultural establishment, including his periodical "L'Illustration Horticole," to Mr. J. Linden of Brussels. Letters to the establishment are in future to be directed to "M. P. Gloner, Director of the Establishment of A. Verschaffelt, Rue de Chanme, Ghent."

—— It is our great pleasure to record that the eminent services rendered by Mr. John Shaw, of Manchester, at the Royal Horticultural Society's Show, have been acknowledged in a way which reflects credit on the Council, they having elected Mr. Shaw a Forty-Guinea life Fellow of the Society.

—— The horticultural world will learn with great regret the decease of Mr. John Bevan Whiting, one of the best of our English gardeners, whose quiet unobtrusive manner and professional skill secured for him an amount of general esteem which it is the lot of but few men to enjoy. Mr. Whiting was, we believe, a native of Devonshire, and for some time was one of the foremen in the Horticultural Society's Garden at Chiswick; and from there he went as gardener to the Earl of Tyrconnel, at Kipling Hall, Yorkshire. It is, however, with the gardens of the Deepdene, near Dorking, that his name is more particularly connected, for there he remained till within a month before his death, a period of nearly thirty years. He was a contributor to Loudon's "Gardener's Magazine," and to the *Gardeners' Chronicle* from the commencement; he likewise furnished cultural instructions in some of Mrs. Loudon's works on gardening. He was a member of the Fruit Committee of the Royal Horticultural Society, and frequently attended and exhibited at their meetings. Mr. Whiting, who never in his later years enjoyed robust health, died on the 19th inst., at the residence of his son, near Hereford.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Clear away haulm, stumps, and the refuse of crops directly they are over, and if there is no immediate use for the ground, dig it up to remain till wanted. At this season, however, there is seldom ground to spare, for it should be remembered that the supply for much of the next winter and spring will depend on the diligence now shown in planting out as large a number as possible of those kinds of vegetables most likely to be in demand at that time. To forward this, *Potatoes* and other crops soon coming off may be interlined with any kind of *Broccolis* or *Winter Greens*; but where sufficient room cannot thus be obtained, a quantity may be planted 1 foot apart until ground is afforded them by the removal of other crops, when the whole may be again planted at proper distances, or every other row, and each alternate plant of the remainder removed to vacant ground. The above mode will answer well where ground is limited, more particularly with those kinds coming into use in spring. Pay strict attention to the requirements of growing crops.

FRUIT GARDEN.

The summer pruning and nailing-in of the present year's wood will require following up, as the late favourable weather has caused an increased growth of midsummer-wood, which may remain for a short time; and it is also probable that some of the foreright shoots which were stopped earlier may again break. When this is the case, it will be better to wait for a week or two, when the growth becomes less active, before stopping or netting-back is resorted to. Those trees which had their breastwood loosely tied-in may now have the shoots cut back to two or three eyes, beginning with the least vigorous trees first, as they will be least likely to start, and allowing the stronger kinds to remain until their growth has so far ceased as to preclude all danger of their breaking, which would prevent the formation of fruit-buds from the remaining eyes. Where time will permit, thinning the wood of this year's growth in the case of Currants, Gooseberries, and Raspberries will be found beneficial, leaving only sufficient to furnish next year's crop. A portion of the Gooseberry and Currant bushes should be matted-up, or protected in some way from the ravages of wasps and birds, for autumn use.

FLOWER GARDEN.

The flower garden will now be in its greatest beauty, and every means must be taken to keep turf, gravel, and edgings of all kinds in the neatest order, that there may be no drawback to the general appearance of the whole. Fork the ground slightly around Dahlias, and mulch the surface with very rotten manure; water plentifully every evening when the weather is dry, taking care that the laterals are well staked out, and every means taken to entrap earwigs and other injurious vermin. Look over the faded blooms of Pinks, extract the petals from the pods, for should rain set in these decayed petals will act prejudicially by retaining moisture round the lower part, causing decay and consequent destruction. We expect a capital seed season. Rooted cuttings of Pansies for making-up the autumnal beds will now be almost, if not quite ready; it will, therefore, be necessary to prepare the beds for their reception. In doing this it is absolutely necessary that wireworms should be caught, as these pernicious insects are as destructive amongst young Pansies as they are to Carnation layers; the compost should, therefore, have repeated turnings. Throw out the soil from the Tulip-bed on the paths, so that the soil may sweeten before being returned.

GREENHOUSE AND CONSERVATORY.

I have previously mentioned the advantage derived from giving plants some kind of rest after blooming, to restore their exhausted energies, and to enable them to make a vigorous start when the new growth commences. At this season, greenhouse plants which have finished blooming should have a comparatively cool temperature, which is nowhere better obtained than in a house with a north aspect. I may state further, that for growing delicate-leaved plants throughout the summer, houses having a north or north-east aspect are to be preferred, while for the purpose of retarding plants, or for preserving them in bloom, they are indispeneable. Such plants, therefore, as Epacrises, Leschenaultias, Pimeleas, Aphelexes, and others of similar habit, which have been kept for late blooming, and are now over, should be placed in a house of the above description, or in deep frames with the sashes turned towards the north, the old blooms being first picked-off; here, by gently syringing once or twice daily, the plants may remain till a new growth commences, when any pruning they may require may be given them, and they may afterwards be placed in more favourable positions for ripening their wood. Camellias, whenever the young wood shows signs of ripening, may be removed to the open air; a situation shaded from the mid-day sun, and sheltered from high winds, should be secured for them. Be careful to place them on a dry bottom to prevent the possibility of worms getting into the pots. Chinese Azaleas, which are equally forward in their growth, and have formed their next-year's flower buds, may likewise be turned out; unlike Camellias, the latter require full exposure to sun and air, and should be placed in an open

situation that their wood may become thoroughly matured; it will, however, perhaps be necessary to place them for a week or two in a partly-shaded situation to harden their foliage sufficiently to bear the full sun, or else the sudden change from a house to bright sunshine might cause their leaves to turn brown and burn. Orange trees when too full of bloom should have the flowers thinned out. They are always in request, either for drying or distilling. The young fruit, when too thickly set, should likewise have a thinning, as a few will be sufficient to remain. To produce dark glossy leaves, water with clear soot water.

STOVE.

A number of Orchids will by this time have made their growth, and may be gradually removed to a drier and cooler atmosphere. Those which continue growing must have the syringe two or three times a-day, and a humid atmosphere maintained by well watering every vacant part of the interior. At the same time, the material in which plants on blocks or suspended in baskets are growing should be frequently soaked to completely moisten it. Some young plants, which it is desirable to lose no time with, may again have a shift, if potted as above. They have had a short rest since the spring growth was completed.

COLD PITS.

The stock here will probably require re-arrangement. Any of the specimens which require more pot room should be shifted as soon as possible, taking care to have the ball moist, and keeping the atmosphere rather closer and moister by sprinkling the plants overhead for a fortnight after potting. Let the young shoots be tied before they begin to fall about, crowd, and injure each other. Cut down Pelargoniums as soon as the wood is properly hardened, and keep them very sparingly supplied with water at the roots until they start into growth, but sprinkle them frequently overhead, as it will cause them to break more strongly. Continue to pot Cinerarias as strong suckers can be obtained, placing them in a close cold frame until they become established in their pots.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

WITH such a week of scorching weather, and little or no signs of rains (the thundershowers having refused to come), planting was out of the question, except where abundance of water and shading was at command. Even sowing would be of little use, unless the ground had been previously moistened, or the seeds treated as stated lately for the earliest Cabbages. Made successional sowings of Cabbages, Endive, Lettuce, Turnips, and Radishes. Ere long we shall prepare a piece for autumn sowings of Onions and Spinach. Winter Onions, which have not suffered from the drought, had their necks bent down some time ago, and are now approaching maturity. Autumn sowing is, in general, the only plan in our variable climate of obtaining bulbs equal in size to the largest imported ones. Our fine bed or quarter of spring-sown Onions is holding on well, but unless we have rain soon the bulbs will be small, as we cannot water them. Could we have conducted a water tub along the rows some weeks ago, the Onions would have been magnificent. Our last-year's summer crop, though sound and keeping well, were deficient in size of bulb, owing to the excessive drought. Even yet a good rain would help to swell our Onions considerably, as the tops are still of a bright fresh green.

Instead of planting out, we have shaded beds of Lettuce, Endive, Cabbage, Coleworts, and Cauliflower with branches of trees, and a great part of our work has been watering successions of Peas, Beans, and Cauliflowers where it was most needed, mulching the ground, or turning over what mulching was there, immediately afterwards. Mulching is the most effective and safest plan when the covering is broken often enough in proportion to its thickness.

To save watering, and prevent the plants running to seed, we have put a few green branches among the beds of Celery. Anything does for this purpose. A branch of a deciduous tree or shrub is quite as good as an evergreen, as the leaves hang on when withered. This shading is most needed for fresh-planted rows and beds. A few branches will save many a pailful of water. In some cases we have strewed a little litter and short grass among the plants to prevent excessive evaporation from the soil. Where the plants are large enough, a little dry earth from the sides, scattered over the soil an hour or so after watering, would be equally effectual; but, for reasons frequently given, we do not approve of doing what may be called earthing-up early Celery until three weeks or a month before it is wanted, chiefly because the bit-by-bit earthing-up system is one of the best means of securing dryness at the roots when, in sunny weather, there is a copious evaporation going on from the foliage.

In warm places a last sowing may still be made of early *Peas* to come in late, as Carter's Early, Dickson's Early, Sutton's Ringleader, &c. Talking of Peas, we saw at Luton Hoo the other day, a splendid row of Laxton's Supreme, a fine green Marrow of excellent quality, of moderately quick growth, an abundant bearer, and coming in early—about the same time as McLean's Advancer, which is also an excellent early Pea with the Marrow flavour. Next to it was a fine row of Laxton's Prolific, also a good Pea, but there seemed to us to be more than one variety in the row, and we could not, therefore, speak so confidently. We have tried in our time to save seeds of favourite Peas true, and we know how difficult it is to do so, unless a good piece is appropriated to one variety and the Peas carefully looked over, and every intruder, or even every inferior or sickly plant, at once removed. One reason why we must have new varieties is, that from mixing and sowing somewhat indiscriminately, the old ones lose in time their distinctive qualities. There is one exception to this, so far as we know, and it is Knight's Dwarf White Marrow Pea. This at the present day is rather a small Pea, but there is hardly a sweeter one in existence, and in small gardens it is very suitable, as it seldom grows above 4 feet in height, and generally yields a mass of Peas from the ground upwards. We generally grow a little of it, and it seems always to be true, though we obtain the seed from the trade; we can safely recommend it to everyone who has a taste for high quality, instead of mere size of Pea. For a large Pea, we grew Jeyes's Conqueror largely for years. It is synonymous with the Ne Plus Ultra, and a splendid large green Pea, so good that several cooks have told us, that the addition of a little sugar, so improving to other Peas, spoiled it. It is, however, a tall grower even with stopping, reaching with us to from 7 to 9 feet; this is a great drawback, and though we have not given it up, it has made us fall back more on such kinds as Veitch's Perfection and the Dwarf Mammoth Pea. The latter grows with us about 3 feet high, and for size and flavour is a fine autumn Pea, but it must have good soil and plenty of moisture. Ours failed from dryness last season, but we have had it fine in September and the first week of October. We think we have told the tale before, but it will bear repeating. One of the best judges of a thoroughly good Pea we ever knew, came to us and said, "Why, I am surprised you should send such huge old Peas to my table." "Did you taste them?" "Not I, the sight was quite sufficient for me." It was only by bringing pods, and showing that the large Peas were like marrow or butter for softness, that he could see that for once he had made a great mistake. This, no doubt, was partly owing to the fact, that there had dined with him some gentlemen who told us that they had partaken the night before of small young Peas in London, obtained, as they found out, by the legitimate process of shelling and riddling, at Covent Garden, thus keeping all the large ones out. Some have even told us that such riddled, skinny Peas were really very good when well cooked. We know pretty well what London Peas are, obtained from sacks in the market, after being heated, and shelled and riddled, and can say without presumption, that those who have partaken of such Peas only, know nothing of the exquisite flavour Peas yield when, even without additions, they are dressed almost immediately after gathering. When they must be sent to a distance, Peas ought always to travel in thin layers, so as neither to be dried nor heated.

Made a last sowing of Dwarf Kidney Beans in an earth pit, so that we can give a little protection late in autumn. By this means the out-door crop is much prolonged.

Owing to scarcity of room, we had planted a bed of Coleworts in one of the earth pits outside the walls, which was devoted in spring to such bedding plants as Calceolarias. We had previously run a piece of 2-feet wire netting round the space of ground, which would help to keep off rabbits. We knew there were grass mice about, which are difficult to exterminate. The first night half of the plants were cut down. It is singular, that there were beds of younger plants of Coleworts and Cauliflower a little distance off, which were entirely untouched, and the banks in that pit were riddled with mouse holes. The plantation was filled up, and the next morning no doubt could be left as to the intruders, for many of the

tops and separate leaves had been carried to, and partly dragged into the holes. We had tried poisoned pellets dropped into the holes, so that nothing else could get at the bread, but without any apparent advantage. Not wishing to be conquered we filled up the plantation afresh, dropped a cordon of tar all round the bed, and let a little fall into every mouse hole and run we could see, and not a plant has been touched since. We question if the plants have thriven any the worse owing to the taint of tar that meets you as you go near the place. Remember, however, that the fumes of tar would kill anything growing in a confined atmosphere. Mice, like rats, are very cleanly animals; the smallest speck of tar on their fur would be to them most annoying. Be the cause what it may, the tar has saved our plants. Where wireworm abounds, we know of no better means for driving it away than sprinkling the ground with tar by means of a brush in winter, when the land is in a state of rest. Long before spring the tar will have become mild enough to do no harm. Rats will soon shift their quarters if tar be placed in their holes and runs. Only tar and feather a rat, and the whole community in the neighbourhood will take the hint and be off. This will not, however, prevent a fresh colony paying you a visit.

FRUIT GARDEN.

Our Currants have been rather injured by *honeydew*, and attendant insects, the first the result of the excessive heat and dryness. After some of our hottest days we have had a light screen of clouds at night, which has prevented the deposition of dew, so much so, that early in the morning there was not enough to damp a satin slipper. We are told by several conversant with tropical climates, that this rarely happens there, as the cloudless sun by day is followed by the cloudless stars by night, and, consequently, by a plentiful deposition of dew, which greatly refreshes vegetation, and enables it to meet the exhausting effects of the fierce sun heat. We have always noticed that in such weather as last week, all vegetation seemed to be much exhausted when the bright day was succeeded by a thinly clouded night, the clouds though thin being sufficient to prevent free radiation. So much was this the case, that in a particular place where we wished to use the scythe, we could not cut with advantage on several mornings, the grass was so dry, and being rather thin it would not well stand the weight of the scythe; we therefore made a compromise, and swept off the heads of Daisies and Bents with the daisy knife, leaving the place green, but not so short as we wished.

We have layered a good many Strawberry runners in pots for forcing, but find that owing to the dryness, good runners are scarcer than usual. Our Black Prince, from which we had a good supply of fruit, is now quite flagged, and if we keep it alive we must contrive to water it. We find this hard Strawberry most valuable for preserving, but it is of all others that we know the most sensitive to drought. We used to grow Strawberries which pleased us, when we had less space for our limited amount of water, but now there are so many crops demanding it, that the Strawberries have not had their due share, and though we mulched, &c., both this season and last, we shall neither have the quantity nor the quality we used to have with comparatively little trouble.

Unfortunately we find that honeydew and green fly are beginning on our Plums and other trees, and we shall give them a good washing with clear lime and soot water to prevent the evil going farther. Mulched the pots in orchard houses to save watering, thinned the Grapes there, gave more air to the late vinery, and proceeded with stopping and removing shoots from fruit trees. Except the Plums and Currants alluded to, the trees are remarkably free from insect attacks this season. If clean water were abundant, we would wash Peach and other trees against walls in the afternoons of these hot days. Ours, for the most part, must do without this washing; for the water which as yet we can obtain is too muddy for syringing purposes.

ORNAMENTAL DEPARTMENT.

The weather has been very trying for Roses. Without watering and mulching, it is scarcely possible to keep up successions of bloom. A little *mildew* and *honeydew* have appeared among them, and some flowers of sulphur will be the best remedy for the mildew. For the honeydew nothing is better than syringing with clear soot water at night, drawing the fingers along where the insects congregate, and following in the morning with clean water. We find that such simple remedies are quite as effectual as many costly mixtures. Clear soft soap water is also good, but it must be clear enough to leave no mark of soap on the leaves. This is easily obtained by mixing up the soap with warm water, and allowing it to stand some hours previous to use, so as to leave the sediment untouched. We have lately had pillars and arches of Roses and Honeysuckles generally very beautiful, but they are now infested with honeydew and aphis, but where we cannot use the engine or the syringe freely. These attacks we attribute to our inability to soak the roots, and to the scorching sun. With a change of weather we shall have less trouble in making the plants healthy, as we do not like the idea of brushing and washing if they can be avoided.

On the principle of what was said last week, we have almost let the lawn alone, except switching it over with the daisy knife to cut down a Bent, Daisy, or Plantain. It is still moderately green, but a close shaving with the machine would soon help to brown it under such a sun.

Pillar Roses have been deprived of their fading flowers, and Hollyhocks, herbaceous plants, Dahlias, &c., secured, and watered when water could not be done without. Hollyhocks must take their chance, and as yet show little signs of suffering. We were obliged to water Calceolarias and Verbenas, and we slightly mulched the scarlet Pelargoniums, which we hope for some time will make them independent of watering. Re-arranged plants in corridors and in the conservatory, as, owing to painting, &c., they were a little disordered. Thinned-out Passion-flowers in the conservatory, as they were becoming too dense for the plants beneath them. Scarlet Pelargoniums of many varieties, Fuchsias, Heliotropes, large-flowered Pelargoniums, Coleuses, and Begonias were what we chiefly depended on for fresh plants; and the Pelargoniums and other plants taken out will be exposed to the sun for a short time, to harden and ripen them before pruning them. The first and second lots have been already pruned, and this brings on a general succession in different stages naturally, as the first lot are nicely broken, and may be repotted shortly. Many Pelargoniums have been repotted for autumn display, and the youngest-struck will be potted to succeed them. Scarlet Pelargoniums potted now, and intended to bloom in winter, should not be allowed to flower at present.

It is still time enough to sow annuals for late-autumn-blooming. Such as Sweet Alyssum, Candytufts, Collinsias, Nemophilas, &c., were last year useful to us for cutting up to Christmas. Wallflowers to bloom in winter, should also be potted. Almost all kinds of Pelargoniums fresh potted will do better in a shady place out of doors for two months hence than under glass. Worms, however, are apt to enter at the hole in the bottom of the pot. The simplest plan to prevent this is to use a good-sized crock, with the convex side over the hole in the pot, and with drainage over it. This will allow water to pass, but prevent the smallest worm entering.—R. F.

COVENT GARDEN MARKET.—July 28.

Increasing supplies and a falling market, the importations from France and the Channel Islands being unusually heavy. All the bush fruit, however, commaod a fair price, being of excellent quality this season. Strawberries from the Valley of the Thames are over, but an excellent supply has been furnished from Kent.

FRUIT.

	s.	d.	s.	d		s.	d.	s.	d
Apples ..... ½ sieve	2	0	to 6	0	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	2	0	3	0	Nectarines ..... doz.	6	0	16	0
Cherries ..... lb.	0	6	1	0	Oranges 100	10	0	14	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	12	0	24	0
Currants .... ½ sieve	4	0	4	6	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	5	0	6	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	6	0	10	0	Plums ..... ½ sieve	6	0	0	8
Filberts ..... lb.	0	0	0	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	1	0	1	6	Raspberries ..... lb.	0	6	0	9
Gooseberries .. quart	0	3	0	6	Strawberries .... lb.	1	0	2	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts .....bushel	10	0	16	0
Lemons 100	10	0	14	0	,, ... 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d		s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	6
Asparagus 100	3	0	6	0	Lettuce .....score	1	0	1	6
Beans, Kidney ½ sieve	4	0	5	0	Mushrooms .... pottle	3	0	4	0
Beet, Red .....doz.	2	0	3	0	Mustd.& Cress, punnet	0	2	0	3
Broccoli .....bundle	0	0	0	0	Onions..doz. bunches	6	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	3	0	6	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	0	0	0	0	Peas ..... quart	0	6	1	6
Carrots..... bunch	0	3	1	0	Potatoes ..... bushel	3	0	5	0
Cauliflower..... doz.	3	0	6	0	Kidney.... ditto	4	0	6	0
Celery..... bundle	1	0	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb.....bundle	0	4	0	0
Endive .....doz.	2	0	0	0	Shallots .....lb.	0	0	1	0
Fennel .....bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	0	0	0	Tomatoes ..... doz.	2	0	3	0
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	8	1	0
Horseradish ..bundle	3	0	5	0	Veget. Marrows..doz.	1	0	2	0

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writere of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and convenieutly, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questione must remain unanswered until next week.

Twenty-five Roses for Yorkshire (*Emma*).—"Buy these on 3-feet standards, and plant in November. I have put, as wished, every third Rose blush, white, or yellow. 1, Charles Lefebvre, crimson; 2, Madame Clémence Joigneaux, rosy red; 3, Gloire de Dijon, orange yellow; 4, Prince Camille de Rohan, maroon; 5, Baronne Prevost, rose; 6, Baronne de Maynard, white; 7, Madame Victor Verdier, brilliant red; 8, Dr. Jamain, maroon; 9, Marguerite de St. Amand, blush; 10, Lady Suffield, rosy purplish crimson; 11, Dr. Andry, crimson; 12, Triomphe de Rennes, yellow; 13, Alfred Colomb, bright red; 14, W. Griffiths, salmon pink; 15, Caroline de Sansal, blush; 16, Duc de Cazes, purple crimson; 17, Jules Margottin, bright light crimson; 18, Céline Forestier, yellow; 19, Maréchal Vaillant, purplish red; 20, John Hopper, light rosy crimson; 21, Madame Alfred de Rougemont, white; 22, Madame Boutin, crimson; 23, John Keynes, red, maroon shaded; 24, Marguerite Bonnet, fleshy white; 25, Maurice Bernardin, vermilion crimson. I do not recommend Briar standard Roses, unless the soil is rich and unctuous. I know the above Roses chiefly on the Manetti stock, which is the best stock for light and inferior soils. I do not recommend Tea Roses out of doors for Yorkshire. Instead of those you name buy the following, they are the cream—Devoniensis, Souvenir d'Elise, Souvenir d'on Ami, Madame Willermoz, and the new Rose Adrienne Christophle. The hardiest Tea Rose known is Sombreuil. It is a fine white Rose, but it is not so good a flower as Madame Willermoz. Sœur des Anges and Ducheese d'Orléans are beautiful blush Roses, and do well on the Manetti stock here; but I doubt their doing well, especially on a Briar, so far north as Yorkshire.—W. F. Radclyffe."

Hybrid Perpetual Roses at Dalston (*G. B.*).—The following will succeed in your neighbourhood:—Anna Alexieff, Baronne Prevost, Auguste Mie, Beauty of Waltham, Charles Lefebvre, Comtesse de Chabrillant, Général Jacqueminot, John Hopper, Victor Verdier, Jules Margottin, King's Acre, Lord Clyde, Prince Camille de Rohan, Princess Mary of Cambridge, and Senateur Vaisse. They would all do better for your purpose on their own roots, and good plants may be had at 15*s.* per dozen.

Roses near Manchester (*Young Amateur*).—"As your land is light and sandy, procure your Roses on the Manetti stock. Mix plenty of thoroughly decayed dung with the soil. Of conrse, in such hot dry weather as the present, you must water them copiously at the roots and over the foliage. When Roses are coming into bloom a canvas shelter against the sun would be highly advantageous. All Roses intended for exhibition should be shaded and their blossoms kept dry. Both the Cloth of Gold and Maréchal Niel are generally (not universally) better suited for culture under glass than outside of it. When you plant your Manetti Roses, cover the collar of the bud with at least 2 inches of soil. Tread the earth close to the stock.—W. F. Radclyffe."

Roses Suitable for Pillars (*P. R.*).—"The best autumnal Roses suitable for verandah pillars 14 or 15 feet high, and having yellow, dark, and light-coloured flowers, are—*Yellow*, Céline Forestier, Triomphe de Rennes, and Gloire de Dijon. *Dark*, Duc de Cazes, Prince Camille de Rohan, and Empereur de Maroc; it is doubtful whether either of these Roses would grow that height, Duc de Cazee might reach it. *Light Roses*, Acidalie, white (Bourbon); Baronne Prevost, or Anna Alexieff, both rose-coloured; and Jules Margottin, cerise, or Charles Lefebvre, variable crimeon. The loftiest dark Rose is Frederick II. (Hybrid China); but it only gives one scries of flowers.—W. F. Radclyffe."

Goose Grass (*Forenaughts*).—It is commonly called Cleavers, because its seed vessels, covered with small hooks, cleave to the coats of animals and the dresses which come in contact with them. It is the Galium aperine of botanists, and you must consult some work on British plants. It is common in hedgerows where the soil is moist. Children pass its rough stems over their tongues to cause a slight bleeding.

Deep Well (*Old Soldier*).—There would be no difficulty to prevent your raising water by means of a forcing-pump, and distributing it over your garden by tubes, but you must consult some pump-fitter in your neighbourhood. We cannot form any opinion as to the expense.

Spanish Plants (*An Amateur*).—We know of no other method for effecting your purpose than advertising.

Sowing Carnation Seed (*C. R. W.*).—The best time to sow the seed is spring, so that good plants may be obtained before autumn, transplanting them when large enough to handle, and again before autumn. Let them have a bed in a sheltered situation, allowing 1 foot between the plants. The seede should be sown in a pan or pot, and to ensure their speedy germination they may be placed in a gentle hotbed. When the plants appear the pot should be placed near the glass, and air given freely, so as to keep the plants from becoming drawn up and weak. You may, however, now sow the seeds in a cold frame or in the open ground, covering them with a hand-glass, and if they be pricked off when large enough, and planted out next April, they may flower late next year. The Lobelia reached us in so withered a condition, that we could form no judgment upon it, except that it is white and blue. Good specimens should be sent packed in damp moss.

Choice of Strawberry Runners (*C. J.*).—We can assign no scientific reasone why the second runner from a Strawberry plant should be most productive, further than this, that the extreme of fruitfulness and the extreme of luxuriant growth are generally opposed to each other, and there can be little doubt that the first runner is the strongest and most luxuriant. We have been at such trouble and cost in seasons like the present to obtain runners, that we take all we can, but we found a difference when we kept them distinct. A fact is not less a fact, though we be unable to assign the "why."

Conservatory Arrangement (*E. B. B.*).—Considering you have no other house in which to bring plants on, we doubt if you can do better than keep the stage, and devote the north wall to Ferns; but you may set the plants thinner on the stage, and thus have larger plants. For mere ornamental display, the best plan would be to do away with the uniformity of the stage, and have baskets or vases in the house, with walking space round them. We have seen small stages thus used with good effect, so that you could walk round them. Even with a common stage you can make great variety by the arrangement of the plants, so as to produce a fresh appearance every week or fortnight.

Ventilating a Greenhouse (*H. B.*).—We see no reason why your house should not answer very well. There will be plenty of sun for the generality of greenhouse plants if you do not use much heat in winter, but merely do a little more than exclude frost. As regards ventilation, opening half of the squares at top will be enough if you can open the four sashes in front. The best plan for the top ventilators would be to have them all connected with a rod and rachet, and then you might have all moveable. The simplest mode would be to have each ventilator pivot-hung, and opened and shut with a cord. The simplest plan for the front sashes would be to hinge them at the top to open outwards, with a small flat bar of iron attached, with holes every 2 or 3 inches in it to fit into a stud of iron inside the sill of the sash. If numbers of plants were your object, and a good show besides, then we would have a 2-feet shelf round the front and ends, a 2½-feet path, a flat trellised stage 4½ feet wide, and 3 feet from the floor. This, with a 2½-feet path, would give a base of 4 feet for a steep stage against the back wall, the upper shelf going to within 2 or 3 feet of the top. This would hold an immense number of plants with narrow shelves. The front shelf should be lower than the centre stage. You could have four Vines in the house, planted inside against the back wall, and trained down the roof. Of course, with the stage referred to, the Vines would do no good before they reached the roof. Without the stage good Grapes could be obtained on the back wall if the roof were not too much covered. With the high stage there, the best place for the Vines would be a border outside the house in front, or inside in front if more convenient. The heating with gas will do if no gas fumes enter, and the opening of the dining-room window on a cold night, after there has been a comfortable fire there, will do much. Indeed, that window would do much to equalise the heat of the dining-room and the heat of the greenhouse.

Japanese Quince (*C. P.*).—It is the Cydonia, or Pyrus japonica, so common in our flower gardens.

Grapes Diseased (*Oakwood*).—We are quite at a loss to account for the parboiled appearance of the berries of the Lady Downe's Grape as they reached us, and more especially as the Vines are so healthy, and the Grapes on other Vines not at all touched. We can do nothing but suggest looking at the glass over these two Vines, and seeing if there are burning spots.

Mildew on Grapes (*A Constant Subscriber*).—Thin them at once, and cover them thoroughly with flowers of sulphur. We have a plateful of the sulphur under each bunch, and bathe the berries, as it were, in it.

Storing Anemones (*A Constant Reader*).—We are unable to say how long they may remain unplanted; but as you have had them out of the ground for two years, and in following years they have flowered well, we think it likely they would retain their vitality for many years. Every cultivator knows how apt the Anemone is to commence growth immediately after maturation, and that tendency is often a source of anxiety to the grower. His aim is to secure for the tubers a season of perfect rest, but not to make it too long he plants in October, and at the end of January or beginning of February, or as soon afterwards as the weather and state of the ground permit. Keeping the tubers out of the ground beyond that time we consider injurious to the succeeding year's growth and bloom. The tubers should be kept in sand dried in an oven, and packed in a box so that no two touch. It should be placed in a cool very dry room.

Surface of Pond Green (*E. H.*).—You have not a sufficient number of waterfowl, otherwise they would keep the surface clear. A pair of swans would, no doubt, serve you better than anything else. In the meantime you may with a dry deal spar, and a rope tied to each end, free the surface of the greenness by drawing the spar gently towards one side, and then backwards. The vegetation can be cleared from the spar and sides of the pond.

Ants to Destroy (*New Forest*).—Mix some arsenic with treacle, spread it thinly on pieces of glass or earthenware, and lay them near the nests. You will soon be rid of the ants.

Cedar of Lebanon (*An Old Subscriber*).—The Cedar of Lebanon and all the Fir tribe succeed on chalk. Plants from 4 to 6 feet in height may be safely moved if frequently transplanted and finally removed with a good ball; indeed, they are rather difficult to transplant unless a good ball be preserved. We know some Cedars of Lebanon upwards of 60 feet high on a chalky soil.

Strawberries (*Warwick*).—We cannot recommend nurserymen. Any of the nurserymen who advertise in our columns could supply the Vicomteese Héricart de Thury. We have so many applications about this variety, that we think any nurserymen having a stock would be repaid if he advertised it.

Errata.—In the article on the loss of the Peach crop in 1869, in the second column, line nineteen from top, "produced" should be *wanting*, and in the seventh line of the second paragraph of the same column, for "made" read *unable*.

Names of Plants (*A. Y.*).—1, Selaginella Braunii (often called S. Willdenovii); 2, Doodia caudata; 3, Adiantum capillus-Veneris; 4, Polypodium appendiculatum; 5, Gymnogramma chrysophylla; 6, Pteris tricolor; 7, Cincinalis flavens, also called Notholæna chryeophylla; 8, Asplenium rhizophorum; 11, Rivina lævis. We cannot undertake to name plants from leaves only. (*T. Y.*).—Allamanda Schottii. (*H. M. K.*).—2, Asplenium flaccidum; 3, Jasminum Sambac. (*H. K.*).—Pteris tricolor.

(*An Old Subscriber*).—Homeroeallis Oava. (*S. C. B.*).—Your Fern is one of the innumerable variations of Athyrium Filix-fœmina. We believe it to be the one distinguished as "variety Pritchardii." (*W. H. E. Herbert*). Alyssum orientale variegatum. (*C. T.*).—1, Daucus esrota; 2, a Cruciferous, insufficient for determination; 3, Anthyllis vulnoraria; 4, Genista tinctoria; 5, Scandix Pecten; 6, Coronopus Ruellii. (*J. D.*).—1, Veronica spicata; 2, Spiræa Filipendula fl.-pleno. (*R. Jameson*).—Holcus lanatus. (*O. P.*).—1, Crataegus sanguinea; 2, Crataegus (or Mespilus) orientalis. (*H. M.*).—Centaurea depressa. (*T. F. H.*).—Your plants may probably prove to be as follow.—1, Leucothoe Lobbii; 2, Pieris formosa, but we are doubtful of them, and should be glad of further specimens if in bloom.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending July 27th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 21	30.046	29.994	81	45	66	63	E.	.00	Clear and fine; very fine; clear at night.
Thurs. 22	29.922	29.862	91	58	67	63	S.	.00	Partially overcast; very fine; overcast.
Fri.... 23	30.005	29.987	73	44	69	64	S.W.	.00	Densely overcast; overcast; clear and fine.
Sat.... 24	30.011	29.977	83	48	65	63	S.W.	.00	Overcast; fine, white clouds; very fine.
Sun... 25	29.890	29.827	79	42	67	64	W.	.00	Clear and fine; overcast; heavy clouds.
Mon... 26	29.822	29.768	75	52	67	64	S.	.00	Slightly overcast; densely overcast; cloudy.
Tues.. 27	29.890	29.769	76	41	66	62	S.W.	.00	Densely overcast; cloudy: clear and fine.
Mean..	29.941	29.873	80.57	47.14	66.71	63.29	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

THE POULTERS' COMPANY.

Thanks, dear Mr. Editor, for your article on poultry and poulterers. Please to keep the ball in motion, and it will roll till it come in contact with shins whose owners will wince. I shall have little to say on this occasion, but I will return to the charge. You have opened a prolific field. From their connection with birds "poulters," miscalled "poulterers"—I think it is Dr. Johnson who says, when ignorant people make a mistake they always do it by addition—hence poulter*ers*. I tell you I am only to-day in possession of your article, and have not time to go into it, but I promise you I shall return thereto. As it is, I shall flounder about among the mines of lore it lays bare. We go a long way back for choice poultry. In Holy Scripture, where detail is given of the food supplied to Solomon's table, we find "fatted fowl" enumerated. Capons belonged to the early days of our monarchy. Their good qualities were known to the "Swan of Avon." His justice is said to be "with good capon lined." To this day there is an annual trip on the Thames by the Corporation of London, called the Swan-hopping, and the water-bailiff is bound to see that all Swans within the jurisdiction of the City are marked. The manner of marking is, that when forward as cygnets they are cut obliquely through the bill till it bleeds. Instinct teaches the bird to lessen the pain and bleeding by putting its bill continually in the cold water. The purpose is soon answered, and when the wound is cicatrised there remains the mark of the cut, which can never be removed. Those who caught one of these Swans were bound to return them to the City of London. I believe Norwich by its charter is bound to consume a certain quantity of oats in fattening a number of Swans. Some must be consumed, some given away. The Corporation do not even pay the same respect to the Swans that American sailors do to horse beef—

"They eat the fat and suck the bones,
And pitch the rest to Davy Jones."

Fine idea of retribution, that the man who took the U.S. contract for navy beef and supplied horseflesh, is in a future state compelled to eat it for ever.

I do not know how it is, but when August is nigh and the sun is hot, we feel disposed to be lazy, and to take our time, and would rather wander into twenty tales, giving a part of each, than keep stedfastly to one. Well, I was asked once to dine in Essex from a Norwich Swan. I do not like a dinner of one dish. Venison may be tough, or high, or worse. Fancy a dozen sitting down to a haunch that reveals its presence at a distance and from under a cover, and becomes simply unbearable on a closer acquaintance. It is vulgar in the present day to quote "Peregrine Pickle;" but who has not sympathised with the carver when at "the feast after the manner of the ancients," and when he had tucked the tablecloth into his waistcoat preparatory to carving the dish on which the host "himself much prided,"—"the belly of a newly farrowed sow stuffed with liver, garlick, pennyroyal and other condiments," he sprang from the table exclaiming, "This is the essence of a bed of garlic!" Unfortunately he dragged the tablecloth with him, to the great discomfort of the guests.

But the Swan. There were learned quotations about royal dishes—the Swan, the Peacock, the Heron, the sturgeon, and the boar's head; but the Swan had the advantage. Did not Penelope sing of her Swans? Had they not always been the portion of the upper classes? Every man felt he could extinguish any talkative fellow at a table by saying, Have you eaten Swan? How do you like it?—B.

(To be continued.)

BLACK-BREASTED RED GAME FOWLS.

Last year at the meeting of the Hampshire Ornithological Association which took place at Southampton, some little amusement was caused by a few Brahma breeders stating it was not possible to get up an amateur cup for Black-breasted Red Game, whilst such a cup could easily be provided for their pets. I, as Vice-President, happened to be present, and at once took up the challenge. The result is that I intend, should the subscriptions reach a sufficient amount, to offer two cups, one of ten guineas, and one of five guineas for the first and second pens of Black-breasted Red Game chickens of 1869, and am pleased to say have been most warmly supported by Messrs. Gibson, Stagg, Matthews, Hodgkinson, Ames, and Loe, who, together with myself, at once subscribed a guinea each. The reason for restricting the competition to chickens is, that it is unfair to place them in competition with more mature birds whose size gives them every advantage.

The conditions of competition are as follow:—The birds must be Black Red Game chickens of 1869, shown in pens of a cockerel and one pullet. The subscription to be one guinea, without prepayment of which no exhibitor to be eligible to compete. Entry fee the sum usually paid for ordinary pens.

It would be almost impossible personally to apply to each breeder, but I am convinced that there are many who would gladly subscribe their guinea if the subject were properly brought under their notice. I shall feel obliged if any gentleman who would like to join us would kindly write me; and as it is in contemplation to form a Black-breasted Red Game fowl club, I shall be glad of the names of those who would like to become members, and any suggestion they might offer as to formation, &c., would be most acceptable.—H. C. Dear, *North Stoneham Park, near Southampton.*

BIDEFORD AND NORTH DEVON POULTRY SHOW.

The following are the awards at this Show, held on the 22nd inst.:—

Dorkings (Coloured).—1, G. M. Walsh, Halsdon, Dolton. 2, 3, and *hc*, A. C. Thynne, Penstowe, Stratton.

Dorkings (White).—2, C. Hamlet, Bideford.

Spanish.—1, S. R. Harris, Cosgarne, St Day. 2, Tonkin & Tuckey, Bristol. 3, W. Norsworthy.

Game (Black and Brown-breasted).—1, E. C. Pope, Falmouth. 2, N. Treleven, Stratton. 3, W. W. B. Coham, Dunsland, Brandiscorner.

Cochin-China.—1, J. H. Dawes, Birmingham. 2, W. L. Trewin, Kilkhampton, Stratton. 3, Mrs. J. Milward, Newton St. Loe, Bristol. *hc*, H. Stephenson, Lympsham Rectory, Weston-super-Mare.

Brahmas.—2, Mrs. A. C. Thynne. 3, L. H. Ricketts, Banwell. *hc*, Mrs. A. C. Thynne; J. Heal, Parkham. *c*, S. R. Higham, Morchard Bishop.

Hamburghs (Gold-pencilled).—1, S. R. Harris, Cosgarne.

Hamburghs (Gold-spangled).—1, S. R. Harris. 2, J. Medway, Nowton Abbot. 3, Woodley & Banbury, Stratton.

Hamburghs (Silver-spangled).—1, S. R. Harris.

Hamburghs (Silver-pencilled).—1, S. R. Harris. 2, J. Walters, Bideford. 3, R. A. Treleven.

Polands.—1, W. L. Trewin.

EXTRA PRIZES.

Barndoor or Cross Breed.—1 and 3, J. B. Lyle, Grimscott, Strstton. 2, J. Heal, Parkham.

Any Pure Breed not Mentioned Above.—1, J. Francis, Worth (La Flèche). 2, Miss S. H. Northcote, Upton Pynes, Exeter (White Spanish). 3, T. Therston (Black Hamburghs). *hc*, H. Leworthy, Newton, Barnstaple (White Minorcas). *c*, W. Gibson, Bideford (Black Minorcas).

Any Pure Breed.—*Cock.*—1, F. Brewer, Lostwithiel (Black Minorca). 2, Mrs. J. Milward (Cochin-China). 3, W. L. Trewin (Cochin-China).

Any Pure Breed.—*Chickens*—1 and 3, H. Stephenson (Coloured Dorkings). 2, L. Patton, Hillmore, near Taunton (Coloured Dorkings). *hc*, G. M. Walsh, Haledon, Dolton (Dorking); L. Withecomb, Buckland Brewer (Silver-spangled Hamburghs); Mrs. A. C. Thynne (Dark Brahmas); J. Heal (Brahmas); E. Maunder, sen., Northmolton (Black-breasted).

Game Bantams.—1, E. A. Bazeley, Bideford. 2, T. Taylor, Bideford. 3, J. O. W. Scott, Smytham, Torrington.

Bantams (Any other sort).—1, S. Woodman, Barnstaple. 2, J. H. Dawes. 3, S. R. Higham, Morchard Bishop.

Guinea Fowls.—1 and *c*, W. M. Lancaster, Thuborough. 2, W. Pridham, Barnstaple. 3, J. S. Willett, Monkleigh.

Ducks (Aylesbury).—1 and 3, J. Heal. 2, G. M. Walsh, Helsdon, Dolton.

Ducks (Common, or any other sort).—1, L. H. Ricketts (Rouen). 2, L. Patton (Rouen) 3, J. Oliver, Bideford. *hc*, J. S. Willett, Monkleigh; Miss Turner, Abbotsham (Muscovy). *c*, R. Petherbridge, Ham, Alverdiscott (Wild).

Geese.—1, J. Bear, Parkham. 2 and 3, J. Heal.

Turkeys.—1 and 2, L. Patton, Hillmore, near Taunton. 3, Miss Galsworthy, Kilkhampton. *hc*, Mrs. J. Milwood.

Rabbits.—1 and 2, C. Seale, Tiverton (Grey White, and Lop-eared). 3, H. Parsons, Bideford. *c*, F. Oliver, Bideford (Himalays).

PIGEONS.

Carriers.—1, G. S. Hockey, Durdham Down, Bristol. 2, H. Yardley, Birmingham.

Barbs.—1, H. Yardley. 2 and *c*, L. Smith, Newport, Barnstaple. *hc*, W. Westacott, jun., Barnstaple.

Pouters.—1, H. Yardley,

Fantails.—1, H. Yardley.

Jacobins.—1, W. Westacott, jun. 2, J. Chapple, Bideford.

Trumpeters.—2, W. Mudge, Torre, Torquay.

Tumblers.—1, H. Yardley. 2 and *hc*, W. Westacott.

Turbits.—2, H. Yardley.

Nuns.—1, H. Yardley.

Common.—1 and 2, T. Boundy, jun., Rudha Bridge Mills (Blue and White).

Judges.—Rev. G. F. Hodson, and Capt. Adney.

HESSLE POULTRY SHOW.

(*From a Correspondent.*)

The fourth annual Exhibition of this Society took place on the 15th ult., in the grounds of J. S. Fearne, Esq. The day being fine, and the North-Eastern Railway Company running specials from Hull, caused a great number of visitors to patronise the Show The entries for poultry were large, and some first-class specimens were exhibited, more particularly in the *Game*, *Spanish*, and *Polish* classes. *Pigeons* were also well represented, except in the Carrier class, in which the entries were very meagre.

Spanish.—1, G. Holmes, Driffield. 2, T. C. & E. Newbitt, Epworth. *Cock.*—1, G. Holmes.

Dorkings.—1, G. Holmes. 2, J. Thompson.

Cochin-China.—1, R. W. Richardson. 2, W. Charter. *Cock.*—1, R. Robson.

Game (Black-breasted or other Reds).—1, H. M. Julian. 2, W. Boyes. *Cock.*—1, H. M. Julian.

Game (Any other variety).—1, W. Boyes. 2, H. M. Julian, *Cock.*—1, H. M. Julian.

Polands.—1, Miss E. Proctor. 2, J. M. Proctor. *Cock.*—1, Miss E. Proctor.

Hamburghs (Golden-spangled).—1, T. Holmes. 2, R. Fleming. *Cock.*—1, G. Holmes.

Hamburghs (Golden-pencilled).—1, M. Barron. 2, G. Holmes. *Cock.*—, G. Holmes.

Hamburghs (Silver-spangled).—1, T. Holmes. 2, G. Holmes. *Cock.*—1, O. A. Young.

Hamburghs (Silver-pencilled).—1, T. Holmes. 2, G. Holmes. *Cock.*—1, G. Holmes.

Game Bantams.—1, G. Holmes. 2, J. Hatfield. *Cock.*—1, J. Duggleby.

Bantams (Any other variety).—1, Miss B. A. Wilde. 2, Mrs. T. Wilde.

Extra Stock.—1, R. Lott. 2, G. Lott.

Selling Class.—1, Pickering & Marshall. 2, J. Hall.

Ducks (Aylesbury).—2, O. A. Young.

Ducks (Rouen).—1, G. Holmes. 2, O. A. Young.

Ducks (Common).—1, O. A. Young. 2, W. Charter.

Pigeons.—*Dragoons.*—1, H. Taylor. 2, H. Lawson. *Carriers.*—1, J. Thompson. 2, W. Campey. *Croppers.*—1, J. Thompson. 2, T. Statters. *Trumpeters.*—1, C. Lythe. 2, R. Lythe. *Jacobins.*—1, C. Lythe. 2, H. Lawson. *Fantails.*—1, C. Lythe. 2, R. Lythe. *Tumblers.*—1, S. Holloway. 2, J. Wood. *Barbs.*—1, H. Thompson. 2, T. Statter. *Nuns.*—1, C. Lythe. 2, Pickering & Marshall. *Any other Variety.*—1, R. Lythe. 2, H. Lawson.

Rabbits.—*Lop-eared.*—1, P. Ashton. 2, G. Ashton. *Any other Variety.*—1, S. M. Fletcher. 2, D. Banuister. *Heaviest.*—1, Miss Herbert.

The Judges were Messrs. Pickering and Hodgkinson, Hull.

The Middleton Agricultural Society.—The annual Show of this Society is fixed for Thursday, the 16th of September next. Many alterations and additions have been made in the prize list, and the premiums increased by £200, making the total amount now offered nearly £1100. The great success which attended the exhibition of last year, has caused the Committee to enlarge the prize list for all descriptions of live stock, agricultural and horticultural produce, implements, bees, &c. The greatest change, however, is to be seen in the poultry department. There the whole of the prizes for full pens have been largely augmented, and a few new classes have been created. Four out of the thirteen silver cups offered for poultry are for Game fowls, and in this class a curious addition has been made. A gentleman connected with the Show offers prizes for the best Game cock above twelve months old, any breed, to be shown with his full comb and wattles on: first, £5; second, £2; and third, £1. We see from the rules that exhibitors winning silver cups may have the money instead, if application be made to the Secretary within a given time from the Show. For bees, £8 are offered; and in the plant department the prizes have also been increased. It will, however, be impossible for us to give a detailed list of the additions made in the premiums, and we must refer our readers to the catalogue of prizes for further information. Last year the entries numbered nearly 3500.

WHITE STARLING—SCALY-LEGGED FOWLS.

I saw a white Starling a few years ago in a large flight of Starlings, but could not get a shot at it; it was just before corn harvest. It was a young bird, but whether it would have moulted dark I do not know, for though Starlings generally return to the same district the following year, I never saw it again. In your "Letter Box" (page 54) I noticed an answer respecting scaliness on legs. I have it often in Cochins, and use a mixture of sulphur and oil, which always puts them right.—W. Gamon.

LIMITING THE PRODUCTION OF DRONES.

As there is no doubt that the only purpose of the existence of the male element among bees is the fecundation of young queens, it follows that, at any rate under ordinary circumstances, the production of these profitless consumers of the wealth of the community may be limited with advantage. My attention has been directed to this subject by the fact that my own bees have this season manifested a more than usual proclivity for the construction of drone combs, and as I find from inquiries made by others that they have not been singular in this respect, I deem it worth while to occupy a small space in the columns of "our Journal," by discussing the most feasible mode of limiting the numbers of this non-producing class.

I may say at once that the hints which I am about to give apply only to moveable-comb hives, and that in the case of hives with fixed combs I know of no practicable means of putting limits to the profitless production of drones.

In the first place, every new swarm should be looked over at intervals of four or five days whilst comb-building is going on, and during these examinations all incipient deviations from the right line must be corrected, and every bent comb straightened—a matter of little difficulty at this time, although the combs should be handled with much caution in their soft and immature condition. If it be found that some are being formed either wholly or in part of drone cells, it may occasionally be well to transpose them, so as to bring them towards the sides of the hive, thus insuring worker combs for the "brood nest," where also they will be more rapidly extended and completed. It would probably be found worse than useless to remove them altogether, as the bees would most likely immediately set to work to replace them. If spare worker combs be on hand, or can be procured from any source, they may be fitted into frames and substituted for superfluous drone combs. I use the word superfluous advisedly, for I do not think it well to thwart nature altogether, and have for this reason always permitted a small portion of drone comb in every hive. I do not, therefore, know what might be the effect of excluding it entirely, never having tried the experiment.

It happened this spring that I had several swarms of last year with incomplete combs and comparatively few bees. By the time they were strong enough to do much towards extending their combs the season was pretty well advanced, and all commenced the fabrication of drone cells. As soon as I discovered this I made an artificial swarm by depriving a strong

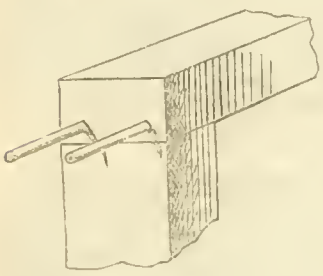
stock of every comb save one, and used the combs thus obtained to supply the vacancies in the other hives, which would otherwise have been filled with drone combs. When these other stocks, recuperated in this manner, had become strong enough, swarms were taken from them as described in page 436 of the last volume, and as soon as the young queens became fertilised, every comb but one was taken from each of the parent stocks, and, being of course free from brood, put by in store for future use.

In these proceedings it will be seen I acted upon the principle that any stock of bees may be compelled to fabricate worker combs, by being reduced to the condition of a swarm—*i.e.*, deprived of all, or nearly all, its combs. This is especially the case if the bees have a young queen of the current year, as in this case we may rely upon it with perfect certainty that they will build but little, if any, drone comb.

The simple excision of drone brood during summer may be considered almost a useless operation unless the vacancy can be at once filled with worker comb by the apiarian, for if left to themselves the bees will only waste time and material by replacing the abstracted cells, which the queen will at once occupy with drone eggs.—A Devonshire Bee-keeper.

PREVENTING BEES FASTENING BAR FRAMES TO THE HIVE.

While discussing in "our Journal" improvements in bar frames, will you allow me to ask your readers if they have ever tried them with two wire pins to support the frames, instead of carrying the wooden bar to the full extent? thus—



I find that my bees in the whole of my frame hives (ten) fasten the ends of the bars, and even now I cannot take one out without giving the hive a shake that sends a cloud of bees into my face. How it will be when this hot weather ceases, and the propolis sets, I do not know. If it has been tried, I should be very glad to know through your columns with what results. I fancy it would be an improvement.—T. B. H.

[Frames may be taken out without any jerk whatever by moving them gently a little out of the perpendicular before lifting them. This cannot, however, be done when they are confined at the bottom by a notched bar, which, therefore, should never be used except for travelling, or when the hive is first tenanted by a swarm.—A Devonshire Bee-keeper.]

FAILURES IN BEE-KEEPING.

The "Kent Bee-keeper's" difficulties are very much what we have to contend with here; for I conclude that his locality is not a very favourable one. I think many of my neighbours might write as he does; perhaps I might once have done so myself.

In the present advanced state of apiarian science there are very few localities in which bees may not be kept so as to afford both pleasure and profit.

The first thing for the "Kent Bee-keeper" is to learn Mr. Filleul's system of getting strong or double swarms, and avoiding second swarms or casts; but even then he may sometimes require to give further strength to his swarms. For instance, my first swarm this year came out on the 24th of May, was put into a Berkshire hive, and set at once in the old stock's place; but, notwithstanding, six weeks afterwards, owing to the cold weather, it was doing so badly that I determined to strengthen it by adding another small swarm. The progress since has been marvellous; the hive is full, and I have had to put on a super, in which the bees are now working.

But to return to the old stock from which the swarm issued. At first it appeared depopulated, and was so deficient in food that I was alarmed for its safety; I therefore gave it a few pounds of sugar syrup to help it till the young bees came forward. It has not sent out a second swarm, but is very strong, so much so as to require the addition of a second glass or super.

If the "Kent Bee-keeper" will invest 6*d.* on Mr. Filleul's "Profitable Bee-keeping," and 4*d.* on "Bee-keeping for the Many," and read the articles and letters on bees in the Journal, he will, I doubt not, be able before long to write a very different account of his apiary.

One more remark, and I am done. Let him be sure to keep his hives well shaded.—S. B.

OUR LETTER BOX.

Brahma Pootra Cock's Tail (*H. M. G.*).—Nothing will make the cock's tail grow faster, but it will grow independently of moulting. Feathers accidentally lost are replaced at once, irrespective of season. A tail grows in about six weeks.

Preparing Fowls for Exhibiting (*Idem*).—Wash their combs and faces with cold water and vinegar, their legs with soap and water; soot will wipe off with a damp sponge. The best food for them is ground oats. They are difficult to get. Oatmeal and barleymeal are both good food, and a few peas given daily for a week to prove plumage.

Dorkings and Pencilled Hamburghs (*R. H. F.*).—We cannot approve your cross. You will not find the Dorkings constant sitters if you keep young birds every year. We believe they are as useful as any fowl, and if fowls are wanted as well as eggs, we do not know how we are to improve them. If you wish to cross, cross with Game or Brahmas, but recollect a supply of eggs is more a question of age than breed. Pencilled Hamburghs are Chittiprats, but the Spangled are called the Pheasants.

Points in Silver-spangled Hamburgh Cocks (*Hamburgh Cock*).—We should prefer a medium comb to either of them; nevertheless, the widest is not too wide, and if well and firmly set on the head, well spiked, and piked behind, we should prefer it to the narrow one. The spangles on the breast should be large but distinct. Splashing and mossing are bad. The ear-lobe should not be larger than a sixpence. A fourpenny piece is large enough. A very large one is a fault, and has a tendency to flush round the edges.

Spanish Cock's Comb and Face (*Idem*).—Spanish cocks get white faces much earlier than pullets. We should look with apprehension on the drooping tendency of the comb. It is a great objection. The only remedy is to tie it in position with silver wire, running it through the top of the comb and fastening to the base.

Dari as Food for Poultry (*W. M. K.*).—It is called "Dari." It comes from Egypt. It is poor feeding stuff and used only when mixed with other and better "stuffs." It has no quoted value in England.

Halifax Poultry Show (*Subscriber*).—We do not know. It has not been advertised.

Tumbler Pigeons (*H. E., Bromley*).—No Tumblers perform the feat of tumbling until they are adult; young will do well, if of a tumbling breed, when they are quite grown up and mated. No doubt you feed them too well; they are, therefore, fat and indolent. Drive them up on a clear morning fasting, and they must always be driven up, unless they have been shut up for a long time, when they will delight in a high fly. Sometimes in particular states of the atmosphere they, like other birds, will fly high, and when they are feeding-off their young; but, as a rule, they must be driven up. Rather coarse-bred birds are best for high flying. Food with Tumblers is a matter of no consequence, as the flying sort eat anything, but it is best to vary the diet, or mix peas, Indiancorn, and barley.

Incubator (*P.*).—Apply to Baily & Son, 113, Mount Street.

Ducks Weak-legged (*B. K.*).—We should be afraid they roost on brick, stone, or board, either will cause the cramp from which they are suffering. It is not weakness. Shut them for a few days in a dry place, an old pigstye will do. Let it be well littered with dry straw, and feed them on oats, sods of grass, and gravel, put in a milk-pan and covered with water. If they have been roosting, as we expect, that is the cause, and if removed they will soon use their legs again.

Preserving Eggs (*A Subscriber; A Novice*).—The directions given are in our No. 422.

Leicester Pigeon and Bird Show (*A Subscriber*).—In one class there was only your own entry, and the judge disqualified it through no competition, at the same time amongst the birds there were several classes with only one entry, and to them were awarded first prizes. You consider you are entitled to a first prize, or, at least, to have your entry money returned, which is refused. We cannot give an opinion without seeing the rules issued by the Committee, and without knowing whether the judges thought the birds undeserving of a prize.

Stocks never Swarming (*J. H. T.*).—We should transfer the bees-combs and all, to a frame hive in the manner described by Mr. Woodbury in page 72. You may then in the autumn strengthen them by the addition of the population of a condemned stock, effecting at the same time an exchange of queens if deemed desirable, and next year swarm them artificially in the manner described in page 84 of "The Gardeners' Almanack."

Bees Working in the Hive Cover (*Novice*).—In the hive (a glass one of Neighbour's), with a straw cover to lift off and on, in which cover the bees are working, as well as in the glass, we should let the bees work on until the end of the season; then expel them by driving, and appropriate the contents of the straw cover, returning the bees to the stock hive.

Ligurian Stock Dwindling (*B. K.*).—It seems probable that your Ligurians swarmed unperceived some time in May, and that the stock is now queenless owing to the young queen having met with some accident during one of her wedding-flights. Queenless bees are often very irascible, but with the aid of a little smoke and snuff entire protection by means of a bee-veil and gloves, there can be no real difficulty in lifting out the combs, and in this way ascertaining their true state. If on examination our conjecture proves to be correct, we should endeavour to supply the deficiency by the addition of a late swarm. There is, however, yet another hypothesis —*i.e.*, that the stock is infected by foul brood. This, also, can only be verified by an internal examination.

Pagden on Bees (*F. H.*).—No publisher's name is attached to the book. It should be advertised.

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 5—11, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
5	Th		76.2	50.7	62.0	19	31 af 4	40 af 7	36 af 1	54 af 5	27	5 42	217
6	F	Duke of Edinburgh Born, 1844.	73.0	50.4	61.7	21	33 4	38 7	33 2	44 6	28	5 36	218
7	S		74.5	50.8	62.6	16	35 4	36 7	45 3	28 7	●	5 29	219
8	Sun	11 Sunday after Trinity.	74.5	49.4	61.9	18	36 4	34 7	1 5	4 8	1	5 22	220
9	M		74.3	49.5	61.9	16	38 4	32 7	23 6	36 8	2	5 14	221
10	Tu	Royal Botanic Society's Anniversary Meet.	74.7	51.8	63.3	19	39 4	31 7	45 7	3 9	3	5 5	222
11	W		75.8	50.7	63.2	19	41 4	29 7	7 9	30 9	4	4 56	223

From observations taken near London during the last forty-two years, the average day temperature of the week is 74.4°; and its night temperature 50.5°. The greatest heat was 93°, on the 10th, 1842, and 2nd, 1856; and the lowest cold 33°, on the 11th, 1864. The greatest fall of rain was 1.08 inch.

THE POT-CULTIVATION OF THE FIG.

THE collection of Figs now in the possession of the Royal Horticultural Society at Chiswick extends to over 130 varieties, and it is, perhaps, the most complete in existence. Thirty varieties were exhibited at the Manchester Show as an example of what may be done in the way of cultivating them in pots, which is the method adopted by the Society in proving this class of fruits.

The following remarks are intended to apply chiefly to Fig trees grown in pots. There is no mode of culture which has so many advantages, and none for which the plant itself is so particularly well adapted. One great recommendation of pot-culture is the immense variety that can be grown in a very small space, so that by a proper selection of varieties an almost continual supply may be obtained. The Fig bears more profusely in pots than when planted out, excepting in the case of large old trees. The Fig is a gross feeder, and when planted out it is difficult, especially while the plants are young, to restrict the action of the roots; and thus, instead of fruit, nothing but gross shoots are produced. Plants in pots, on the contrary, are perfectly under the control of the cultivator, and bear fruit abundantly. Further, the fruits produced from plants in pots are generally of a far richer and higher quality, if proper attention is paid to watering, &c.

One of the most puzzling circumstances in connection with Figs is the casting of the fruit, which is very prevalent with plants in pots. Many theories have been advanced, and many articles written as to the probable cause of this, and how to prevent it, but with little practical result, for as yet nothing definite has been arrived at. It is, without doubt, due to some defect of the setting, yet how or from what cause this defect arises I have never been able to determine. Some varieties, even particular trees, are more liable to cast their fruit than others, and that under all kinds of treatment; while others receiving the same treatment in every respect do not cast them. It is not the sickly trees that are so much subject to the evil, neither is it the gross-growing ones, but generally those which seem in the best possible condition. It is the first crop, too, more rarely the second, that is cast. It is ascribed by some to a sudden check, to coldness, to dryness at the root, or the reverse, or to too much moisture at the time of setting the fruit. All of these conditions are injurious to a certain extent, yet none of them sufficiently accounts for the evil. It is not coldness, as the evil generally occurs at the warmest season of the year. It is not dryness at the root, nor excessive moisture, as I have had plants subjected to each extreme—the one potbound and flagging nearly every day, the other with the pot and roots standing in a pan of water, and in neither case did the tree cast its fruits; while others alongside, treated in the usual manner, did so. There are two or three trees at Chiswick which invariably cast their fruit every year, in spite of every precaution.

Although Figs will grow in almost any situation, there is no plant more benefited by the full and direct rays of the sun; the Fig house, therefore, should be of a light and airy description, so that the plants may be fully exposed to the sun's influence, for on that depends the proper ripening of the wood and the production of the future crop, as well as the flavouring of the fruit. A vinery, or some such place, in which to start them into growth in spring, is very suitable. The plants may remain under the Vines until they are in full leaf, when they must be removed to more sunny quarters. Fig trees while growing delight in a close, moist, warm atmosphere. In order to start them into growth a temperature of 50° by night will be sufficient; as the plants advance, the temperature may be gradually increased to 65° or 70°. During the summer very little fire heat will be required, as by closing the house early in the afternoon a very high temperature may be maintained by sun heat alone. By day the temperature, if by sun heat, may be allowed to rise to 90°, 100°, or even higher, keeping the atmosphere very moist by frequently syringing all over the plants, paths, &c., even in the bright sunshine. In fact, the warmer and moister the atmosphere is the better the plants seem to thrive. By this mode of treatment red spider, thrips, &c., the great scourges of Figs in a dry atmosphere, are effectually kept in check.

The assistance of fire heat is very little required for Figs during the summer, only on very cold nights and to assist in ripening the fruit of the later varieties. When the fruit is ripening air must be admitted rather freely, and a drier and more bracing atmosphere obtained, as Figs, like all other fruits, are much improved in flavour by having a brisk atmosphere surrounding them while ripening.

The Fig will grow in almost any kind of soil; that, however, in which it seems to thrive best, and to bear the greatest abundance of fruit, is a pretty good yellow loam, resting on a chalky or dry gravelly subsoil. For pot-cultivation I have found the following soil answer well:—Two-thirds good yellow loam, to one-third lime or brick rubbish, with a free admixture of rotten manure, charcoal, and burnt ashes. When the plants are young they should have a liberal allowance of pot-room, so as to grow them rapidly up to the required size. They will produce fruit, however, in a very small pot. I have fruited them abundantly in 6-inch pots. The most eligible size, and that which I should recommend as large enough for all general purposes is the 12-inch pot—*i.e.*, 12 inches in diameter, in which were grown those exhibited. The same trees may be grown in the same pots for a great number of years. Our practice is to repot all the trees while they are at rest during winter, shaking off a great portion of the old soil, and shortening the roots considerably in the same way as is practised with Pelargoniums. During the summer, when the pots are nearly filled with roots, much benefit will be derived from frequently top-dressing with rotten manure mixed with a little loam.

Figs while growing freely require a very liberal supply of water; indeed, if the pots are tolerably full of roots they can scarcely be over-supplied. Manure water may also be applied with advantage. When the fruit is ripening,

however, water must be applied more sparingly, as an overdose at that time will deteriorate the flavour, and cause many of the fruits of the finer varieties to split open, especially in dull, cold, cloudy weather. Great care is therefore necessary in watering, &c., at this stage.

It is an old saying, that "a pruned Fig tree never bears." It is, however, like many others, only half true. The Fig tree will bear any amount of pruning; there is no plant more benefited by summer-pruning—*i. e.*, pinching off the growing shoots—than the Fig, and even in winter it may be pruned to any extent with impunity. It is true that if we cut back in winter all the shoots on which are situate the fruits which form the first crop, that crop will be sacrificed. We obtain, however, a very abundant second crop if attention be paid to the pinching of the growing shoots as closely as possible during summer. While the trees are young and vigorous the shoots will elongate considerably in spite of all the pinching. These, in winter, should be cut back to one-half their length, and the same process of close pinching continued. As the plants grow older they will make more stubby, short, close-jointed wood, which in winter will not require much pruning. Of the trees exhibited (now eight years old), most of the largest had the half of their branches cut back in winter, and the other half left unpruned, excepting when the plant became too large; then it was headed quite down, and by this means the whole of the plants were kept compact and of a uniform size. In summer the young shoots are pinched, first at from 2 to 3 inches in length, then as closely afterwards as it is possible to do so. This continuous and incessant pinching induces fruitfulness in the Fig to a very great degree. All the shoots that are pinched throw out one and sometimes several fruits at the axils of the leaves, while those not pinched more rarely do so.

Another point of considerable importance is that of forming the plant on a single stem. Independently of its more handsome appearance, I have found such plants to be much more fruitful than where a multiplicity of stems are allowed.

Lastly, with respect to the selection of varieties for cultivation. If pot-culture is intended I would recommend considerable variety—firstly, because there is a charm in variety; and secondly, because Figs vary much in flavour according to the situations or conditions under which they may be growing. For instance, some of the higher-flavoured and finest Figs require much heat and bright sunshine to bring them to full perfection, and it may happen that these conditions cannot be fulfilled; the weather may be cold and sunless, and more heat may be wanting than can be supplied—then some of the second-rate sorts surpass the better ones in flavour. Of the highest-flavoured sorts, I would select Col di Signora Blanca, Grosse Verte, and Bourjassotte grise. These, however, all require considerable heat; the last-named being, perhaps, the finest and most constantly good variety in the collection. Of the most free-fruiting kinds may be named White Ischia, Violette de Bordeaux, White Marseilles, and Brown Turkey; and for hardy varieties—varieties suitable for cultivating in the open air against walls in this country—in addition to the White Marseilles and the Brown Turkey commonly to be met with, I would venture to recommend the earliest of all our Figs, De la Madeleine, Grosse Violette de Bordeaux, and Grosse Monstrueuse de Lipari, which are all possessed of the property of "first bearing"—the term used in the Fig countries to denote those varieties which retain and ripen-off the fruit which is produced on the wood of the previous year's growth. Our summers are in general too short to allow of the Fig ripening more than the first crop, so that only those varieties which are possessed of this property (and it is peculiar to some varieties), can be considered suitable for open-air cultivation in this country; but on this point, as well as on many others in connection with Figs, we have yet much to learn.—A. F. Barron (*Read before the Royal Horticultural Society.*)

CULTURE OF MARÉCHAL NIEL ROSE.

Your correspondent, "A Subscriber," is quite right in his observation that the blooms of the Maréchal Niel exhibited at shows are selections from large stocks. You do not see the failures but the successes. It is a Tea-Noisette in family, but not in character, as a Noisette means a cluster Rose. It was derived from Isabella Gray, which sprung from the Cloth of Gold. The latter in my garden (four plants in the open air), is a rampant grower with plenty of foliage. I think of budding the Marshal on the new powerful shoots of Cloth of Gold. The Tea and Tea-Noisette Roses succeed best under glass. They like rich Barley and Turnip soil, with free drainage, intense heat, plenty of water, and little pruning.

As your correspondent only keeps a few yellow Roses, let him procure Gloire de Dijon and Triomphe de Rennes. For a standard, I specially recommend Céline Forestier. I have a most elegant standard of it here, given to me by the Rev. S. B. Hole. It blooms better as a standard worked on a Briar, than on its own roots, or on a Manetti stock.

Triomphe de Rennes and Gloire de Dijon will do well on a Briar, or on their own roots, or on the Manetti, and in the open border, or against a south or south-east wall.

To fill a large space of south wall, no yellow Rose will excel Solfaterre. The best Maréchal Niel I know is in front of the wall of a vinery. Mine are best in that situation.—W. F. Radclyffe.

ASPECTS OF SPRING GARDENING.—No. 4.

(*Concluded from page 56.*)

Resuming my notes on Nuneham Park, and coming away from that part called "Mason's Garden," a pleasant winding walk by tall banks of shrubbery, and ending in an ascending flight of steps, leads to the north terrace garden, and here an entirely new scene opens to the view. In our floricultural progress up to this point we have been treading a pleasant flowery ravine, hidden between two huge walls of trees on either side, with a foreground of shrubbery and flower beds. So calm and peaceful is it, so sublime and beautiful, and so solemnly still, that it might be likened to a vast open temple, wherein some of the most lovely forms in nature wait upon the Beneficent Hand that gave them being, and hath so lavishly "decked the earth with trees, brightened it with flowers, and gladdened it with the sun." On the emerald floor of this temple are gathered innumerable types, both of leaf and blossom, varied in form and hue, but unchanged in their one simple act of devotion; there

> "The flowers come forth like voices sent from some sweet land of love,
> And breathe of some more glorious world, like the returning dove."

And to fill up the outline of the simile—

> "while airily aloft
> The trees their cool green feathery foliage droop,
> Scarce stirring in the breath of fair Spring's morn—
> Like verdant banks on the broad stream of life."

But on the north-terrace garden a broad expanse of open country bursts into view; below, in a grand valley,

> "Clear serpentining Isis smoothly glides,
> Full-flowing in the distance."

Beyond, Abingdon, and a vast tract of country in the distance on hill sides rising up, as it were, to the sky. On the right the eye catches in the distance a glimpse of the classic halls of Oxford; on the left a lengthened and commanding rampart of woodland shuts out the park from view, screens the vale below, and affords a kind of broad ledge, whereon runs that grand walk of a mile in length, regarded as one of the masterpieces of the great landscape gardener, "Capability" Brown. The north terrace garden is inlaid on gravel; there is no grassy turf to vary the flowers; to see that, one must look over the balustrading on to the park below.

The ground plan of this terrace garden forms a kind of an irregular triangle, and comprises twenty-nine beds of various shapes—some large and others small, and so disposed as to fit into the shape of the garden, which is bounded on two sides by the north wing of the mansion, leaving the other two sides completely exposed. In the centres of five of the beds were stone vases set on pedestals, each vase filled with the charming Dielytra spectabilis. Looking over these beds, the most gorgeous were two of circular shape, having in the centre Young's Blood Wallflower, a very fine dark strain, yielding grand masses of colour, and much esteemed by Mr. Stewart, the Wallflower being surrounded with the blue Myosotis, and edged with the golden-flowered Alyssum saxatile. Another bed was of an oblong shape, the centre being filled with Silene pendula, and edged with Viola cornuta. Phlox frondosa, mingled with the common blue Venus' Looking-glass, made a pretty bed, though the blue form of Campanula pentagonia would be more effective in this relation, as it would yield larger flowers of the same hue, and a corresponding extent of or mass of colouring. Some outside slips of beds, actually describing a very important flank movement in this floricultural review, filled with the yellow Cliveden Pansy, with white Myosotis, with Phlox frondosa, with the Cliveden blue Pansy, and with both

the blue and white forms of Campanula pentagonia, gave charming masses of colour, varying the mixed character of the larger beds. Other forms of the arrangement of plants and colours were—a centre of Alyssum saxatile edged with blue Myosotis, dark Wallflowers edged with white Myosotis, white Cliveden Pansies mingled with double white Primroses, and edged with Phlox frondosa—a very pretty bed; and four circular beds raised in stone, in each of which the centres were composed of Leptosiphon densiflorus, mingled with Calandrinia speciosa, with here and there a few Cliveden white Pansies mingled with them, two of these beds being edged with Aubrietia deltoidea purpurea, and two with the variegated Arabis albida.

On the west terrace there is no flower garden, but it is flanked by a balustrading of pillared stone, ornamented with fine vases at intervals, the terrace affording a broad unobstructed promenade. From this point the terrace takes a turn to the left by an alcove, with trellis-work seats resting against the house, and covered with Roses, Jasmines, the grand Clematis lanuginosa, and other climbing plants. A fine Wistaria sinensis, thickly studded with pale purple racemes of flowers, is here seen growing against what is termed the corridor—a limb of the mansion connecting the more modern southern wing of the building with the old centre; and then into the south terrace.

It was here the glories of the system of spring gardening at Nuneham appeared to culminate, for a most charming sight bursts on the view, showing a symmetrical arrangement of twenty-eight beds of spring-flowering plants in two parallel divisions, with a broad gravel walk dividing them, like two hostile armies drawn up in array of battle, or like the recoil of a wave. Each flower bed on the one side has its counterpart on the other, as like itself in design, careful planting, and keeping as can be. Six vases on pedestals occupy positions on either side of the walk, two at each end, and two centrally, and green glazed earthenware settees take positions along the walk.

Starting from the north end of the terrace, a bed of Limnanthes Douglasii opens the floral display on either side. Granting that this valuable spring-flowering annual, so hardy as to be able to withstand the rigours of all weathers, has a somewhat weedy appearance when in flower, it must yet be borne in mind that at every stage of growth it does good service during the winter months, for previous to its making its flowering growth it takes the form of charming tufts of vivid green, especially after a fall of snow has lain upon it for a few days. Then come two show beds of Young's Blood Wallflower, the beds being edged with Arabis albida variegata. It was singular to note how the cold easterly winds had altogether changed the colour of the Wallflowers, turning them from a rich dark colour to a pure yellow, pencilled with dark, though the flowers had opened of their usual dark hue. All the spring flowers were of this rich dark hue also, but they were rapidly changing as they became exposed to the chilling effects of the wind. Then came beds that were very bright and effective, being filled with Tournesol and Rex Rubrorum double Tulips mingled together; then beds of blue Venus' Looking-glass, edged with that most useful of all spring-flowering plants, the charming golden-blotched Bellis aucubæfolia. This has not been used so largely at Nuneham this season as is generally seen, the unusual drought of last year having destroyed so many of Mr. Stewart's plants. Then came beds of Alyssum saxatile, edged with the blue Forget-me-not, the former a glowing mass of colour. Then beds of Collinsia bicolor, edged with Bellis aucubæfolia, not a good combination in so far as symmetry of growth is concerned, the former being too tall, and quite overshadowing the Daisy. Then beds with centres of blue Forget-me-not, edged with Silene pendula alba, and further on this order of colours was reversed, for in the last case the white Forget-me-not formed the centre, edged with the pink Silene pendula. Between these, however, came some grand and sunny beds of Young's Wallflower, edged with the blue Forget-me-not—striking masses of colour. Then beds of the white La Candeur and crimson Rex Rubrorum double Tulips, mingled with the blue Forget-me-not, and edged with Bellis aucubæfolia. Next these, and forming the terminations of the divisions of the beds on either side, were masses of Limnanthes Douglasii, corresponding with those at the outset. From this point of the south terrace garden a flight of stone steps leads down to the pleasure grounds—a kind of ante-chamber to the grand woodland walks and charming openings of scenic effect designed by Brown. Standing at the foot of these steps, and looking back on the masses of colouring seen in this garden, was to survey a brilliant floral picture limned by a master hand—a picture that could be lingered over with pure appreciation, and be remembered with unalloyed delight.

But as all preachers apply their subject at the close of their discourse, so must I follow with an application at this point. There is, after all, a simplicity about the form spring gardening has assumed in these days—a simplicity that brings some features of its disposition within the reach of the capacities and circumstances of all having space to apply them. Simple hardy annuals are the main instruments by which spring gardeners work out such important results. Collinsias, Nemophilas, Forget-me-nots, Wallflowers, Limnanthes, and others, sown in August in out-of-the-way patches, and only to be lifted into their blooming quarters when

> "The dry, crisp leaves are ankle deep
> In woodland ways;
> And wild winds, shrieking from polar seas,
> Cry to the lorn and withering trees
> Of coming winter days;—"

and early frosts have destroyed the last remnant of the summer display. Such things as Daisies, of all colours (for all are extremely useful), Polyanthuses, Hepaticas, and all else of a character propagated by root-division, can be lifted at the time the annuals are planted, divided at the roots, and planted in their blooming quarters. The variegated Arabis, Alyssum saxatile, Phlox frondosa, Iberis sempervirens, &c., can all be propagated by cuttings. A few bulbs go a great way in a spring garden, and if they are carefully lifted at the time the spring-flowering plants are removed to make room for the summer bedding stock, and replanted in a shady place in some light sandy soil, and so left to ripen, they can be made of good service for successive seasons; besides, they propagate themselves by forming offsets. Another point to be urged, is its comparative inexpensiveness. This will be seen from the remarks made in regard to its simplicity. It is, therefore, within the reach of all, as the outlay in starting is comparatively small. Most important of all, as a principle of application, is a "reserve garden," to serve as a kind of nursery during the summer months. A small piece of ground will accommodate a great many plants, as they can be placed closely together, and cuttings occupy but little space. In most gardens there is a small piece of ground which can be used for this purpose, even those with limited means in this respect can work wonders, if they are determined to succeed. Some knowledge of the plants used is essential, and if this is possessed only in part, it is soon augmented by the results of experience—one of the best teachers in the flower garden. "If it were not for my Orchids," says Mr. Jerningham, in "Birds of Prey," "I think I should go melancholy mad; but for the cultivator of Orchids there can be no such thing as satiety, until all the forests on the shores of the Amazon have been rifled by exploring botanists." In like manner, I, too, should be inexpressibly grieved were there no spring-blooming plants to fill up the dreary void in my flower garden between September and May. With these I bridge the chasm that separates decaying autumn from budding spring, and sink the two in a common bond of floral service.

Thomson, in his poem on the seasons, sings—

> "See, Winter comes to rule the varied year,
> Sullen and sad, with all his rising train—
> Vapours, and clouds, and storms."

But the face of nature in so far as it is reflected in our flower gardens, need not be "sullen and sad" when winter comes, for our gardens can be made to smile joyously into its stern face, and transmute some of its dreariest aspects into scenes that shall recall gleams of the lights that have gone out with the past summer; or, better still, be prophetic of their advent once again, when the icy bands of winter shall be removed by the warmth of the gentler and reviving spring, from the fettered, but not vanquished hands of Nature.—Via.

SCALDING OF GRAPES.

I noticed in the Journal of July 29th, some remarks concerning scalding in the berries of Lady Downe's Grape. The same Grape in a vinery here has had the same fault, both in the last and present season; the berries are attacked as soon as stoning is finished, and they are liable to be injured until they commence to colour. The fault is not in the glass, as the berries are injured where the bunches are amply protected from the rays of the sun by the foliage, although not to the

same extent as they were on one or two bunches on which the sun shone unprotected by any screen during two hours each day. The only way to avert the evil is to keep the house as cool as possible during the day, let all the ventilators and doors be thrown open until the sun is off the house in the afternoon, and if the vinery is sufficiently provided with ventilators very little damage will be done. No other Grape, now or old, that I am acquainted with has ever suffered with me in the same manner. Mrs. Pince's Black Muscat is not injured in the least. I have this variety grafted on Lady Downe's, and the thickness and luxuriant growth of the cane is remarkable; on its own roots it does not seem a strong-growing variety.

I hope these few remarks may be of use to your correspondent "Oakwood," and others who may be in a like case.—James Douglas.

PAPERS READ AT THE HORTICULTURAL CONGRESS AT MANCHESTER.

The Council of the Royal Horticultural Society have placed in our hands for publication the papers that were read at the meetings of the Society held at Manchester on the 21st and 22nd of July. The meetings at which these papers were read were what were announced as the "Horticultural Congress," but which partook of nothing of the character of a congress, and therefore failed, as we anticipated, to carry out the idea of what was foreshadowed in the programme and announcements.

The intention of holding these meetings, and it was a laudable one, was to take advantage of the presence of the large body of horticulturists who would be attracted to Manchester by the Show of the Royal Horticultural Society, and to elicit from them their practical experience on subjects which were brought before them by gentlemen competent to do so, in the form of essays. But instead of deliberation, discussion, and resolution, which are the essentials of a congress, there was nothing but the bare reading of the papers, which we are now about to publish in our pages.

The idea of a congress was a good one, and if it had been carried out its meetings would not only have been fraught with much interest to those who were present, but many disputed questions might have been settled had those who entered the lists to discuss them have possessed the knowledge and ability to deal exhaustively with the subjects. But the idea was not carried out, and those who attended to hear the papers read were either unable, or what is more probable, unwilling to discuss at such a time and in so public a manner questions which they knew they could deal with in far more comfort and to much greater advantage in the public prints.

It is a consideration, therefore, whether it is worth while to repeat these meetings on the occasion of the future provincial Shows of the Royal Horticultural Society, the result being so incomparably short of the means used to attain it. There is first of all the room or tent in which to hold the meetings, and the attendant expenses. There is the tax on those few members of Council who go down to these Shows, and whose offices are for the time anything but sinecures, to be present to countenance the proceedings. There is the tax also on the authors of the papers, who are at the expense of travelling far distances to read them, and then, without any consideration, to surrender possession of them—a tax of which we have had more than one complaint. And there is the tax on the public—not a very numerous body certainly in the present instance, who, ignorant that they would have an opportunity of reading the papers in comfort for themselves in our pages, listened to them with commendable patience in a small stuffy tent under the rays of a broiling July sun. Unless the perfect idea of a congress can be carried out, we do not see what good can arise from a few gentlemen meeting together merely to read a few papers on topics which are ordinary subjects of treatment in the weekly horticultural journals. As a congress the affair was a failure, and if these meetings are to be repeated, let them have a fitting designation; but let them not in future be dignified by the name of that which they in practice fail to realise.

WHAT SOIL IS BEST SUITED FOR THE PRODUCTION OF GRAPES?

A question continually asked by amateurs and others is, "What kind of soil should I use in making my Vine border?"—"Choose," says the stereotyped reply, "turfy loam from a pasture field." So far the answer is correct; but the geological formation is never named, whether calcareous, silicious, or igneous, assuming that quality in this particular requires no consideration.

I admit that there is some difficulty to secure soil in a free state, as the different formations very often pass into each other. For instance, we have the calcareous sandstone soil when the former predominates over the latter, and again the silicious limestone when the finely divided particles preponderate.

However lightly some cultivators may estimate the propriety of providing certain descriptions of soil for the growth of certain classes of plants, our everyday experience demonstrates that the different constituents have separate duties to perform in the vegetable economy, whether the action is chemical or mechanical; and further, we cannot controvert the fact that the duration of life in plants, and the quality of the fruit, are true expressions of the soil on which they grow. Analogy is certainly not an accurate system of reasoning, but in the present case may be of some assistance. Within the area of the boulder clay it has been found that the best race of men is produced, also the best cattle, and that the death rate is lower. If we accept this statement we need not hesitate to admit the validity of the preceding conclusions.

In relation to, and in support of these preliminaries, I now pass on to deal with what may be to some a more practical part of the subject,—one which has for years past given me considerable anxiety, and produced sometimes strong feelings of self-reproach. The case to which I wish to draw attention refers to the unsatisfactory state of the Grape crops at Tortworth.

Let me notice first that the soil of which our Vine borders are made holds a large proportion of magnesian lime; one vinery is planted exclusively with the White Muscat of Alexandria, and although eighteen years old, its strength has not greatly diminished. There has never been cause to complain of sterility, the show of fruit has been invariably good, even as many as four large bunches are generally produced from a single eye. The berries always set freely, and during the first stage grew to a large size, leading to the supposition that when fully ripe their quality would meet the approbation of the most fastidious. The very reverse of this was the case; when they had finished stoning there was no further increase of flesh, a decrease was more frequently preceptible; the skin began to shrivel and turn leathery; there was also a deficiency of saccharine matter, and of that peculiar aroma the exclusive property of the Muscat.

How to account for so decided and so violent a departure from the ordinary course eluded every attempt, and my conclusions never rose above mere speculation. Had this occurrence happened occasionally, there would have been sufficient room to suppose that my practice had been one unvarying course of mismanagement; but there was no cause for any suspicion of the kind, as the same conditions were closely adhered to which had heretofore been attended with some amount of success. The border of an adjoining house was made of soil in every way similar, and was planted with Vines of the Black Hamburgh, Foster's White Seedling, Buckland Sweetwater, and Golden Hamburgh. We have here a slight improvement in the produce of the first two varieties, but even then the best bunches were hardly second-rate. The latter were always to some extent unproductive, and what did make their appearance were straggly in the bunch, and deficient in berries.

Interposition very frequently alters the whole course of events, and brings about a change which the agent had not anticipated, and it so happened with me. We found it necessary about fourteen years ago to renew an old Vine border. I had no choice of soil; so whatever benefits were then produced did not depend on any foreknowledge of mine; they were purely the result of unforeseen circumstances. I can best describe the quality of the soil by saying that it belonged to the old red sandstone formation, contained not a particle of lime, and was composed of silex, alumina, and organic matter derived from decayed herbage. At the time the border was made no manure was added, nor has any been since applied, except a small portion mixed with turfy loam of the same description as an occasional surface-dressing. The varieties were the same as in the preceding house, which gave me an opportunity of estimating correctly the Grape-producing properties of the two kinds of soil. I had not the slightest idea as to what would occur. I did not anticipate that results would differ materially from what I had already experienced. But when the Vines began to bear, the improved quality of the fruit certainly took me by surprise,—more particularly as regards the Golden Hamburgh, being perhaps a little more difficult to manage than any of the other varieties. Many of the bunches exceeded 4 lbs. in weight, and the berries 4 inches in circumference.

I do not offer these statements on the supposition that they represent more than what is to be seen daily; they are merely given to

mark the distinction between the past and the present, or, in other words, between the expressions given by the two kinds of soil. We have here a change, resistance has given way, circumstances are completely altered, an effect of a very decided character has been produced. Now the question arises, and often repeats itself, "What is the cause?" Not by any possibility can it exist in the general management, as there has been no variation, neither has any occurred in the arrangement of the border materials, the same principle having been adopted throughout.

I now feel satisfied I cannot evade the conclusion, the fact is forced upon me, that the caustic property of the lime has worked all the mischief; and that the nearer it approaches to a state of carbonate, the more fatal the effect. Magnesian lime is the worst we have to deal with, as it retains its causticity longer than any other kind.

Having succeeded in my exertions so far, I next applied silicious soil mixed with a third part of manure, for the growth of our pot Grapes. Without entering into minute details, which are the property of every gardener, it will be sufficient to notice that the quality of the fruit was equally satisfactory, and as a guarantee I may note that a Vine of the Alicante, one year from a single eye, matured 18 lbs. of excellent Grapes. These results encouraged me to proceed a step further; I had the earth removed a foot deep from the borders made of calcareous soil, and replaced by silicious soil, on the supposition that it might to some extent act as an improver. Although the roots worked amongst it freely, and have been doing so for some years past, I have not been able to discover that it has produced any advantage. There is one caution to be observed in the selection of silicious soil—namely, that it is frequently to be met with, and sometimes to a considerable extent, mixed with oxide of iron, which should be avoided. Whatever opinions are held or may be formed by gardeners on this subject, the red sandstone soil with me, for the growth of the Grape Vine, has long become a settled article of belief. In making this declaration, I do not exclude soil from other geological formations, I only offer a protest against the presence of calcareous matter.

A writer of considerable reputation has strongly recommended soil from igneous rocks, but of this I have had no experience. Nothing, perhaps, stimulates inquiry, and gives wings to thought so much as to feel ourselves probed by the sting of defeat; perception becomes more penetrating, and the range of ideas more extensive. So, in debating this matter, it occurred to me that I had always seen Grapes, produced from the limestone, of a very inferior quality, and from the chalk the sample was even worse. Without penetrating into the cause further than mere external observation, I without hesitation placed the entire blame on the shoulders of the gardener. But I have lived long enough to admit that I was wrong, and to withdraw so false a charge.

There may be few, still there are some, gardeners who believe that a successful career of Grape culture depends upon the observance of a system of set rules more than anything else, and when these fail to produce what was anticipated, what do they do next? Why, submissively wait on Providence to help them.

What is generally understood as mere practice has long ago yielded all the sound information it ever had or can possess. Shall we then continue to submit to the dictation of what is effete and powerless? Shall we perpetrate the folly of threshing the same straw over and over again, and winnowing the same old chaff? No! by no means, if we are to make progress. We must shunt out of so narrow a groove, we must take hold of principles, and learn from them how to make a successful application of that description of food best adapted to certain classes, or to individual plants. At the present time the mode in which many inorganic substances act is very imperfectly understood, and must of necessity remain so until the office they perform in nutrition is clearly ascertained.

There is no reason why we should continue to remain uninformed on this point any more than on the subject of those complex matters that go to build up the animal system. For this purpose analytical tables have been prepared, which direct us to select those aliments which furnish muscle, bone, and blood, or indeed all that is necessary to build up and sustain whatever belongs to the composition of the living body. And again, let us observe with what exactitude the chemist prepares his medicines, and how, by an accurate knowledge of their action upon different parts and organs of the human system, the skilled physician is enabled, either to cure disease or lessen the pangs of suffering. The question may be asked and answered in this way:—Is the science of horticulture to be kept below its legitimate status—are we to plod on as heretofore in a hazy atmosphere—are we to allow our operations to be governed by something little short of haphazard? Certainly not; our profession is as much entitled to rank as highly as any other department in science. We ought to be able to exercise as much control over the vegetable kingdom as the physician does over the animal kingdom.

I do not say that gardeners must of necessity become learned chemists, or vegetable physiologists, the bare supposition would be an absurdity. What we do want is a recognised authority to whom we may apply to have our soil analysed at a moderate charge, which would be a practical benefit to the entire community.

To show that soil possesses a greater influence than we are at all times willing to admit, we shall suppose a case, and the supposition is quite correct—viz, that one, two, three, or more of our best Grape-growers, persons whose success has been uniform on some particular kind of soil, we may name the purely silicious, were removed to the calcareous districts, it will be found that the quality of their produce will differ widely, even although all other circumstances are the same. I would then suggest, that the soil on which first-class Grapes are grown should be analysed and the result published. This would inform us correctly of the properties that operate so favourably, and be a guide to others while making a similar selection. Some may question my statement. Still, I hold the fact firmly, that our achievements, no matter how great or small, depend more on the quality of the soil we use than on anything else, and consequently place every intelligent gardener much on the same level.

It would be both interesting and exceedingly useful, did the nature of this discussion and the limits assigned me permit, to give a description of those trees and plants that require time for the proper maturation of their fruit, and those to which it is injurious; success and failure have more to do with these points than we are at all times aware of.

The office performed by inorganic nature in the vegetable system has never been clearly ascertained, at least it has never been fully explained, but has given rise to vague speculations that confuse rather than instruct, and breed a vast amount of contention.

In conclusion, I would state how desirous I am to see the time when science and practice shall mingle together, and not till then can we acquire the key that opens the door of legitimate progression. However much we may neglect the observance of the fact, whether through ignorance or from any other cause, an immutable law reigns, which governs animated as well as inorganic substances. It pervades the world—there is no place where its power does not act—there is nothing beyond the reach of its influence.—Alexander Cramb, *Tortworth Court.*

ON THE PRUNING OF FRUIT TREES AS AFFECTED BY SOIL, CLIMATE, STOCKS, &c.

Fruit trees are, it is to be presumed, mainly cultivated for the sake of their fruit, consequently the chief object of the cultivator should be directed to its production; and much may be accomplished towards this end by a rational system of pruning

The judicious pruning or non-pruning of fruit trees is an all-important question, far more important than that of training, with which it is frequently confounded. Training is the producing of form—an ornamental part of the business, and is at times rather antagonistic to producing fruit. But pruning, whilst necessary for training, is chiefly performed for the sake of securing fruit. To prune a fruit tree is a very different thing from pruning any other sort of tree, inasmuch as the production of fruit is much more difficult than that of timber, or merely ornamental form. It is, indeed, easy to grow a tree and prune it so that it may assume any desired form or size. This is merely a question of time, and of the careful adherence to some given rules or pre-arranged plan; but to make that tree produce good fruit in large quantity, and of good quality, requires the exercise of much more skill and knowledge. To do this, however, is the office of the pruner, and by proceeding judiciously he may accomplish it.

To lay down any definite rules for guidance in fruit-tree pruning, beyond the broadest general principles, is impossible, for in practice we have so many variations of soil, climate, subjects, and even stocks, to deal with, all exerting considerable influence, that no given rules can be strictly followed. That which may be proper or advantageous for trees on one soil, situation, district, &c., may in another case be found totally impracticable. Further, also, a great deal depends on the time of pruning, and the manner of the operation. According to the amount of foliage duly exposed and properly developed, the growth of the tree advances; therefore, although the reduction of any part of a tree on which leaves are produced may diminish the rate of increase on the plant generally, yet through its removal the parts left increase more rapidly, in consequence of having a greater supply of sap at their disposal, and of their leaves being more fully exposed to the influence of light. Therefore to prune judiciously is not only advantageous, but in fruit culture it is indispensable.

To prune a tree is to cut off a portion of its stem, or parts of its branches, and the object to be attained is the regulation of the vegetation of the plant. The immediate effect (it may be repeated) of pruning, or the cutting-off of any portion of a plant, is to cause a greater supply of sap to flow towards the parts which are left. Thus, if a tree is growing vigorously and making strong unfruitful shoots, the effect of pruning it back severely in winter is to increase its vigour instead of weakening the tree. All winter pruning, or pruning after active vegetation has ceased, results in producing greater vigour in a plant; therefore a vigorous healthy-growing tree requires less pruning than a weakly-growing one

A special point to be aimed at in fruit culture is equality of growth, and thereby uniformity of action, throughout all the component parts of the tree. The most unfruitful of all trees are those in which one portion is allowed to have a great ascendancy over the others. The stronger portions of these have then to be repressed, and the weaker portions encouraged, which will promote uniformity of growth. Excessive vigour is, however, undesirable, as trees in that condition bear but a small quantity of fruit; yet it is possible for a tree to be too weak, and to produce too many small fruits, as well as to be too vigorous and unfruitful.

There may be said to be two distinct styles of pruning—viz., market garden or orchard pruning, and gentleman's garden or trained-tree pruning. The one is necessarily very different from the other. In

the former case the trees are allowed to retain much more of their natural character; they are pruned almost entirely for fruit, form or appearance being in a great measure ignored. In the latter, while fruit-bearing is one main object, yet with this is combined the formation or retention of some particular form. Which of the two, then, is the more productive or profitable? which of the two is the more to be recommended? Or is it possible to apply the treatment as regards pruning that is necessary for the one to the case of the other, or to produce the same results on each subject alike in different soils, situations, &c., without having regard to the altered circumstances in which they are placed? It may be possible, but it is scarcely practicable to do so, and in many cases the attempt will result in an entire failure; the trees, as already stated, may be formed, yet the fruit for which they are grown will be wanting. These remarks apply more especially, yet not exclusively, to formally trained trees.

If we take a glance at the natural tree vegetation of the country, we shall find that in one locality the trees are of a dwarf stunted character, and perhaps very fertile; while in another they are rampant and vigorous. In the one case we have probably poor sandy soil and an exposed situation, and in the other deep alluvial loam and comparative shelter. Good fruit may be produced in each situation, yet under very different conditions. Here, then, is Nature teaching us, and her general laws we must obey; for though we cannot alter this natural order of things, much may be accomplished by skill in moulding the one to a similarity of the other. The light soil may be enriched, the strong loam impoverished, shelter may be procured, &c.; but these can only be done in a very limited way. Unless, however, something of the sort be done, the growth of the trees in the two instances will be very different; and in order to induce an equal amount of fruitfulness, the treatment of the trees as regards pruning will require to be very different also.

Since viewing the extensive experiments on agricultural produce of Mr. Lawes and Dr. Gilbert, at Rothamsted, with different manures, and the wonderful influences effected by these manures on different plants as regards their tendency to induce a disposition to run to seed, and to favour early maturation, it has occurred to me that perhaps something in this way might be accomplished with fruit trees by the application of some special manures, which, as in the case of the mixed mineral manures on grasses, would give a tendency more towards fruit-production than to leaf-growth. There may be a manure for fruit trees, which is capable of utilising the existing and necessary portions of the soil, and concentrating all the energies of the plant towards the production of fruit; and if so, how valuable it would be!

Again, climate greatly influences the growth of trees, and in some respects its effect is similar to that of the soil. Thus, a damp climate, such as that in the south-west of England counteracts the effects of a dry soil, assimilating the results to those afforded by a deep rich soil in a dry climate. In a damp climate trees grow much more luxuriantly as a rule than in a dry one, and as luxuriance of growth is unfavourable to fruit-bearing, our treatment of the trees must again be modified to suit the altered conditions. In the orchards of Devonshire, and other parts with damp climates, there is a remarkably natural check put upon the growth of the trees, which would otherwise be over-luxuriant and unfruitful—namely, the growth of Mosses and Lichens on their trunks and branches, caused, no doubt, by the continued dampness. The presence of these epiphytes serves, however, in my opinion, as a beneficent check upon over-luxuriance, and thereby induces greater fertility than would otherwise be obtained. Here, then, is Nature repressing vigour more effectually than we can do by the employment of any artificial means. It being, then, as yet impossible to alter soils or climate to any great extent, we must perforce, if the greatest success be desired, cultivate only those trees which are most suitable, and that after the manner most in accordance with their natural tendency. In short, in a locality where trees naturally grow but slowly, dwarf or miniature fruit-tree culture will be the most advantageous; and where trees naturally grow luxuriantly they must be allowed to do so, the modern dwarf, closely-pinched fruit trees being for the most part unattainable.

There is, however, yet left for consideration the important subject of the stocks whereon we may graft our fruit trees. The influence of the stock is in many ways marvellous. It is as yet a subject but very imperfectly understood, especially by fruit-growers themselves, whom it concerns most intimately. It might be given as a proverb, "According as the stock is so will he the result." We have not only stocks which impart great vigour to the plant, and the reverse—those which check luxuriance and induce greater fertility, precocity, and a tendency to maturation—but we can also select stocks which enable us to cultivate fruits with an almost equal amount of success on damp clayey soils, as on dry sandy loams. It is also worthy of experiment on a somewhat extended scale, to find out whether it is not possible to cultivate fruits successfully in otherwise uncongenial districts by grafting and using plants indigenous to the district, as stocks, such as the Pear on the Mountain Ash, and on the different species of Thorns, which are in general common enough. That would be utilising the natural vegetation of the country.

It may be well here to notice briefly some of the principal stocks used for our fruit trees, and to state the conditions under which, as well as the purpose for which, they can be most advantageously employed.

Apples.—1. There is the Crab or free stock, most suitable for large standard trees, and totally unfit for dwarf ones. 2. The French Paradise, which is eminently qualified for producing dwarf fertile trees, and which succeeds best on damp, clayey soils, its roots feeding near the surface. 3. English Paradise, a moderately vigorous-growing stock. 4. The Nonsuch English Paradise of Mr. Rivers, which is similar in its effect to that of the French Paradise, producing vigorous but fruitful little trees. It however succeeds well on dry soils, which the French Paradise does not.

Pears.—1. The Pear, or free stock, which, like the Crab, is again only suited for large trees, excepting in dry soils, in which case, on account of the roots striking deeply for sustenance, it is the most to be recommended. 2. The Quince, which is admirably suited for cultivation in damp soils, through its roots feeding near the surface, is entirely unsuited for forming very large trees on dry soils. Its great recommendation is in its dwarfing tendency and its exceeding fertility. Pears may be grafted on many other stocks, such as all the species of Cratægus, Mountain Ash, Cotoneaster, &c.

Plums.—These are not much influenced by the stock, excepting it be the Damas Noir, which tends to earlier fertility.

Cherries.—1. We have the wild Cherry, which is adapted for large trees. 2. The Mahaleb, the most suitable for dwarf-fruiting plants. Plums may also be grafted on Cherries, and *vice versâ*. Beyond the fact of its accomplishment, however, I can state nothing, as the ultimate results are not known.

By way of illustration, we may admire the successful results attained by Mr. Rivers, in his magnificent culture at Sawbridgeworth, with myriads of pretty miniature bushes, pyramidal and cordon trees, all densely laden with fruit; and we may further be enlightened as to the practice pursued to produce such success, and become in consequence impressed with its desirability, and induced to go and try to do likewise—to have our fruit trees all grown in the same miniature style, &c. We see the results, and seize the idea, but most likely forget the conditions, or the natural or other advantages enjoyed by them, through which they have so easily attained their present fruitful state. The natural tendency of tree vegetation in the soils of Sawbridgeworth is towards early fruiting. There is, indeed, considerable variation of soil even in these nurseries—from strong Wheat land to lightish sand; yet throughout nearly the whole extent there is a great deal of calcareous matter, which it will be found, wherever present, is the most favourable of all for fruit culture. It is greatly to the predominance of this chalky matter in the soil, though partly to its exposed situation, and also to the use of suitable stocks which give a dwarfing tendency, yet, most of all, to Mr. Rivers' skill in taking advantage of all this, that we are to attribute his immense success in the culture of miniature fruit trees. To illustrate still further, go to the neighbourhood of Paris, where in fruit culture results are attained nearly similar to those of Mr. Rivers. Fruits and fruit trees, it is well known, succeed there admirably, and the soil is very similar to that so general at Sawbridgeworth. Around Paris the climate influences and benefits the condition of the trees and fruits to a considerable extent, yet otherwise the results are as nearly as possible the same.

Trees in the two instances grow but slowly, yet sturdily, and make no rampant watery unfruitful shoots; these are, on the contrary, sturdy, short-jointed, and well-supplied with fruit buds. Indeed, the difficulty of their having too much of a fruiting tendency occurs at times, the trees being thereby soon exhausted, and the fruit rendered worthless. It is desirable at all times that fruiting trees should produce a certain quantity of young shoots, as on the influence of the leaves so produced and on the action thereby infused into the plant, depends chiefly the quality of the fruit. Hence to induce short formation, although there may be little to prune, yet the pruning-knife may be used to great advantage, and the shoots cut closer back. In fact, the trees may be kept in smaller compass than that which would be prudent to adopt in the case of trees growing very vigorously. The cultivation of miniature fruit trees, trees planted at 4 feet apart, in such soils and conditions, is highly commendable. It would, indeed, prove the most profitable; as although they might be allowed to attain considerable size, it would be many years, owing to their slow rate of growth, ere the ground could be otherwise fully occupied, or turned to the best account for fruit culture.

To reverse the picture, however, let us visit the rich valley of the Thames, with its deep alluvial loam, and look at the fruit culture in some of the market gardens—for example, that of Mr. Dancer, at Chiswick. Here there is also fruit in abundance, and of the very finest quality. Here, however, the trees instead of being dwarf and fruitful, are large, rampant, and vigorous; and although while in a young state they produce but little fruit, still as they attain age, if not over-pruned, fruit is produced in immense quantities.

In the one case, winter pruning—close pruning, is necessary to induce greater vigour, and prevent overfertility and weakness—(*i. e.*, assuming the stocks, &c., used in each locality to be the same); and in the other, the object of the pruner is to reduce luxuriance, and this is best effected by non-pruning, or at most, by the thinning-out of the shoots and branches where crowded, so as to expose the remaining ones more freely to the influence of light, leaving the strong-growing young shoots at almost their entire length, which the next season produce a less vigorous growth, and as a consequence become more fertile, on account of the forces of the plant not being concentrated on a few buds, but being required to spend itself over many. In short, in the one case miniature fruit-tree growing is advantageous and practicable, simply because the trees are not inclined naturally to grow larger, and in the

other it is almost impossible, because the trees naturally grow too luxuriantly.

Excessive vigour may, however, be considerably repressed, and fruitfulness may be induced, by judicious summer pinching of the growing shoots, and also to a great extent by root-pruning. The first summer pinching is of paramount importance. It is most easily accomplished on the naturally fertile trees, yet it is most required on the most luxuriant. By constant application a great deal may be accomplished. It is an operation rendered absolutely necessary in all formal styles of training, and in the culture of miniature trees. The leaves of a plant are almost its very life; they are its breathing organs. Leaves elaborate the sap which is drawn from the roots, and return it into the stem to form woody fibre, so that the pinching or the taking away of any portion of its leaves arrests the flow of sap in that direction, and directs it towards the parts which are left. Thus, therefore, by stopping the stronger-growing portions—those on the upper parts of the tree, which are in advance of the lower or weaker portion—we equalise the flow of the sap, and cause a uniform action throughout. This stopping and checking of the shoot-growing propensities of the tree tends towards the formation of fruit buds, excepting in some cases—namely, in very rich soil, and where it is attempted to confine the energies of the tree within too narrow a limit. Under such circumstances the most incessant application will fail to produce fertility, but will result in the continued production of watery shoots, and a gradual weakening of the tree. In such cases root-pruning may in some instances be resorted to with advantage. Root-pruning in miniature fruit-tree culture is almost absolutely necessary to keep the trees within bounds in many soils. It should, however, only be appealed to as a last resource, after all other modes of checking vigour and inducing fertility have failed. Root-pruning tends too much to weaken the whole system of the tree, to take away the powers of the plant which are required for the support of what fruit there may be produced. It is not exactly a weakening of the entire system of the tree which is required, but a retention of all its powers, and a direction of those forces towards the production of fruit instead of that of shoots.

In concluding these remarks, I would recommend those who may be commencing fruit culture to take well into consideration the soil and situation of the place, and then the object, whether for the production of fruit simply, or for fruit combined with the formation of the trees after some particular form. Whatever may be the object, the condition of the soil should be considered, and the trees selected should be worked on stocks whose requirements can be best supplied by that soil, and by the mode of pruning and general cultivation adopted.—A. F. Barron, *Royal Horticultural Society, Chiswick.*

ON THE PROSPECTS OF HYBRIDISATION.

The object of the following remarks is to show how large a field is still open to cultarists in the matter of cross-breeding.

In order to see the extent and nature of this I will ask you to withdraw your attention to a considerable degree from the mere in-and-in breeding of a few favourite and already over-bred groups of garden plants, and to turn it to the higher object of originating new forms and qualities, by working with hitherto neglected or unthought-of subjects. Under this head I include:—

Genera hitherto unattempted.

True species unused, or insufficiently worked out.

Old garden plants, shrubs, or trees possessing high special qualities.

Variegated plants of all kinds to be used as the sires or male plants.

Other descriptions might be catalogued, but the above list would give us enough to do. I will not treat these cases separately, for they are much bound up with one another, but will take them as they happen to suit my present purpose, which is to say as much as I can in the shortest space of time.

Let us begin with ordinary cultivated things—the old familiar forms of the flower or kitchen garden, and note a few of our shortcomings. Enter genus Rosa:—The Rose has been said to be coming rapidly to a dead lock, so great has been its cultural improvement. But this improvement has run somewhat in a rut, hundreds and thousands of seedlings are raised annually, and yet we get little more than slightly improved forms of a few favourite types.

It is not my province here to point out the means of working to a given standard of perfection; this is the task of the skilled and practised craftsman whom we call the florist. The hybridist is the explorer and pioneer, after him comes the selective improver. I will not taunt my florist friends by saying, You have not yet produced a blue Rose; but let me just observe that the greater part of your show Roses have no scent, and many of them neither scent nor constitution. Your yellow Noisettes won't open; and of the perpetual, or Provence classes, you have no scented yellow Rose at all. Neither have you a white one fragrant and ever-blooming. Sweet odour, that complementary quality which, with other matchless attributes, makes the Rose of romance the real Rose of the poet and the lover, is absent. The scent of the Rose called Mademoiselle Bonnaire would never recall a memory. Again, you have no crimson Tea-scented Rose; you have no really good rampant or climbing perpetual Rose at all. Fellenberg and Eclair de Jupiter are far from perfection. Where is the very possible perpetual Pompone? With July we bid a long adieu, alas! to Rose de Meaux. Can these deficiencies be supplied? I think they can.

First let us lay the foundation for a white, by crossing together the white China and the white Unique Provence; also the whitest Tea, say Niphetos, with the same, and the old white Moss. For a blush-coloured race, take the fragrant old Maiden's Blush and Celeste, and cross with the pink-tinted Teas. For size and doubleness of flower, with fragrance, take Souvenir de la Malmaison and Comtesse Lacépède, and cross with White Provence and Moss with Maiden's Blush, even with the Common Moss and Cabbage Rose.

The production of a yellow will be more of a task. As seed-bearing parents let us take the old yellow China; it is still to be had, though very scarce; the yellowest Teas with the white China and old Sweet Double White. Cross these with the Austrian and Persian Briars. Also cross together the yellow Teas and China with the palest and clearest-coloured Provence kinds.

The Teas should be fruited in pots under glass. This will bring them into flower at the same time with the Austrian Briar. Moreover, they set their fruit freely when grown in this manner. For a high-coloured Tea Rose, the old crimson China Semperflorens would impart a large share of its colour to any of the true Teas, and the cross might be taken both ways.

It will probably take some generations to produce a good rich-coloured climber Fellenberg. Gloire de Rosomène and crimson China might be crossed together. Ruga, which seeds freely, might produce seedlings of higher colour and frequent-flowering habit by a cross with these last-named kinds, and for an experiment their pollen might be used to fertilise Coupe d'Hébé and Fulgens. The sluggishly-opening Tea Noisettes might be crossed with the old semi-double yellow China to produce an intermediate effect. I may here suggest that the noble old Noisette Grandiflora should make a fine seed-bearing parent when crossed with handsome vigorous Roses of almost any class, but especially the Provence breed.

Again, to originate new and hardy races there is sufficient evidence to prove the enormous advance frequently made by a first cross from a wild or natural species with the pollen of a cultivated one. I need only point here to Ruga and Maria Leonida, raised from two wild single species, by the pollen of the double Tea Roses; and the pollen of this exquisitely fragrant plant should be tried upon every natural species that can be procured.

I fear I have dwelt too long upon the Rose, but it was tempting—the Rose always is tempting. Moreover, it was a good subject for an endeavour to shadow forth my meaning to-day.

And now we will take a turn in the orchard. A few good Apples and Pears have been raised by definite and well-considered crosses, but many yet remain to be devised and carried out. One of the first, things that will occur to us, when once out of the old rut, is that we have scarcely any good summer Apples and Pears; none of any size, and none possessing the peculiar and higher qualities of the autumnal and winter kinds. Who has ever raised a seed of Citron des Carmes, or reared a brood of young Jargonelles, ennobled by the blood of Marie Louise, or other early autumn Pear? Who has ever collected, selected, and united in wedlock the pleasant but very improvable summer Apples? I think no one, as yet, not even the great Sultan of Sawbridgeworth. Is there any reason why the great size and hardy vigour of the Catillac and other culinary Peare should not be imparted to or shared by those sorts whose melting flesh and rich flavour fit them for the dessert table? Mr. Rivers has worked nobly at the stone fruits, and especially as regards the Peach, Nectarine, and Apricot groups; but there is yet a most interesting and important line of work left open to the horticulturist—viz., the breeding expressly for hardiness. Hardy Peaches and Apricots are known to exist. Let these be searched for, collected, and bred from; let them be sown, reared, and, if possible, fruited away from the sheltering wall. The long frosts of winter, and capricious climatic vicissitudes of spring, will of themselves form an effectual selective process. In all crossing experiments, hardiness should be kept prominently in view—hardiness of constitution generally, and hardiness to bear low temperature. It is common enough to hear it said, "Such a fruit is the king of its race, but it is so tender, or, it may be, such a bad bearer."

Should such things be when the cross-breeder has actually the power in his hands to combine given qualities and to impart deficient ones? Much attention has been given of late to the Plum, and we possess many fine sorts; but there still remains many a curious and haply profitable combination to be tried. The pretty and curious Cherry Plum has not yet been used as a parent. The hardy and prolific Damson would certainly produce valuable orchard sorts, if crossed with the Green Gage, Golden Drop, and other kinds possessing high quality and marked character. The common Bullace is a less promising subject, but it is in itself quaint and pretty as a dessert fruit, and might repay the trouble of crossing with the Golden Drop. Even the poor despised Sloe would furnish an importantly instructive experiment in showing to what an extent the austerity of its wild produce would be modified by the influence of a rich and saccharine garden Plum.

I do not think much deliberate crossing has been done with the Cherries. A few subjects of well-defined races might be crossed together. The Morello produced sterile seedlings when experimented upon by Thomas Andrew Knight, yet I cannot help thinking that further trials might meet with success, or at any rate verify a result. I need hardly say that to a really scientific mind the verification of an experiment, or the setting at rest of an old doubt, is a gratification of the highest order.

After the fruit tree question, of which I fear you must be almost tired, we pass naturally to the shrubs. Are our small fruits incapable of further improvement? Not while Red Currants are sour, and—I now address myself to an especial audience,—Men of Lancashire, I call upon you to produce an eatable prize Gooseberry. Red Currants still obstinately persist in being acid, although they were once worked at by a master hand; but a few generations under the care of the hybridist would undoubtedly improve the Gooseberry in flavour as well as in size. Your huge Lancashire Roaring Lions might be made rich with the honied juices of the old Rough Green, Red, and Yellow berries, and the "unsapid" pachydermatous, prize-taking monster might become a mouthful for a prince.

I had prepared materials for carrying out far more fully my intention in treating of this subject. Time flies, and I have only got to Gooseberries.

So now I will bring my fragment, for it can perforce be no better, to an abrupt conclusion. I hope I have inculcated an important principle, to wit, the getting out of a rut; and I wish all good fortune and success to the bold traveller in untrodden ways.—R. T. Clarke.

P.S.—There is no earthly reason why we should not cross the Pine Apple.

ON THE IMPROVEMENT OF PLANTS

BY SELECTION, HYBRIDISING, AND CROSS-BREEDING, HAVING SPECIAL REFERENCE TO THE HOLLYHOCK AND THE ROSE.

There are two important methods of procedure open to him who may wish to engage in the modification, or improvement of plants. 1, Selection. 2, Hybridising and cross-breeding. The first method, "selection," is exceedingly simple, and may be successfully followed by anyone who possesses or who may acquire the habit of observing correctly. The second method, "hybridising and cross-breeding," is more complex, and requires, in addition to the habit of observing correctly, an acquaintance with at least some of the laws of vegetable physiology. In adopting the former, we seize upon certain variations or phenomena which we meet with in Nature, and endeavour to "fix" or render permanent that which we are accustomed to call accidental; in pursuing the latter, we start with a conception which we labour to convert into a fact. To the mere man of business, selection is usually the more attractive; the method is more suitable to his habits of thought and practice; but to the scientific mind hybridising or cross-breeding are usually more inviting, and the results more satisfactory. To both methods are we largely indebted for improvements in the vegetable kingdom, and it would be exceedingly difficult, perhaps impossible, to say how much we owe to the simple process of selection, and how much to the more complex and scientific labours of the hybridist.

It will be my purpose to place before you, as fully and clearly as I can, a few instances of improvements by both processes, drawing, as far as practicable, from my own observations and experiments.

First of selection. It is well known to observers in this field that most plants, and especially cultivated plants, when raised from seed, are prone to vary:—

> "The earth was made so various, that the mind
> Of desultory man, studious of change,
> And pleased with novelty, might be indulged."

We sow a handful of seed, and in some cases scarce any two of the young plants which arise therefrom prove absolutely identical; there is a difference in size or appearance, in form, colour, or texture. This shows an inherent capacity of progress or development. It is more marked in cultivated than in wild plants, and the tendency increases under cultivation; yet it appears in both states. Among wild plants I have met with no more striking example than that of the Lychnis diurna, which grows plentifully in the hedgerows surrounding my nurseries at Waltham Cross. The flowers of some of these self-sown plants are much larger than others, some are of a deeper colour, and some of a smoother aspect and more rounded form. The habit of growth of the different seedlings also varies greatly. The Dog Rose (Rosa canina) is another case in point. Examples of this fact are, however, plentiful enough in Nature, and might be adduced almost without limit if required. But it is only by selection and cultivation that the most attractive forms of these natural variations can be fixed and turned to practical account. The advanced Lychnis, if neglected and allowed to seed in its native wilds, would probably produce offspring for the most part similar or inferior to itself, except rarely and at long intervals of time. If, however, removed to a superior soil, more highly nurtured, and the seeds gathered from the most attractive plants only, the improvement would probably go on gradually but regularly from generation to generation.

To elucidate further the principle and results of selection, let us suppose an intelligent agriculturist observing in his Wheat fields some individual plant of Wheat more vigorous in growth, or more prolific, longer, stouter, and fuller in the ear than those by which it is surrounded. He wishes to retain this variation, knowing that if he can succeed in so doing he will thereby increase his crop. He sets a mark upon this plant, saves and sows the seeds separately, selects again and again, from year to year, those most in advance, be they few or many, until the variation first noticed has become constant and fixed, and, perhaps, even further developed. This process of selection usually requires to be pursued through several generations, some of the individuals from each successive sowing continuing to advance on the line first indicated, and the whole drawing closer together, till in the end he establishes the purity or constancy of the race. Once established or fixed, the variation will remain an improved race or breed, and if the individual plants composing it are not absolutely identical, they are yet sufficiently so for practical purposes. In this instance we have supposed a case of selection for a prolific tendency, but the same principle may be applied to any other desired improvement, as quality of grain, earliness or lateness of ripening, quantity or quality of straw, and so on. Or, to take other instances from agriculture, the farmer observes among his Mangold Wurtzel a plant remarkable for the large size of the root and the small size of the top—among his Turnips a root that has stood the frost uninjured, while others surrounding it have been materially damaged; he selects the Mangold with the view of increasing the weight of his crop without drawing too much from his land, the Turnip for the sake of obtaining a hardier race of this valuable root, and follows up the process of cultivation already described, until he fixes the recognised and coveted features.

As with the agriculturist so with the market gardener, whose superior vegetables are in great part due to the judicious selection of the individual plants from which he saves his seed. Perhaps half a dozen of the whitest and closest heads of white Broccoli are selected off many acres as the source of the crop for the ensuing year; and other vegetables and flowers—as Onions, Cabbages, Lettuces, Stocks, &c.—are subjected to the same careful process of selection.

To continue: Our seed-growers work on the same principle, although in place of leaving a few only of the best, the quantity of seed they require compels them to rest satisfied with eradicating a few of the worst only, and the value of their crop of seeds is, or should be, in proportion to the thoroughness of the selection, or, as the growers term it, the purity of the stock. If in the Bill on the adulteration of seeds now before Parliament, a clause could have been inserted insuring the purity of the stock, I should have considered that by far the most important part of the measure.

I have intentionally given prominence to the above cases, because I believe the farmer, market gardener, and seed-grower, whatever attention they may be giving to cross-breeding now, have in the past derived their improvements chiefly, if not entirely, from selection; whereas, the horticulturist has been for many years past working more or less ardently in both fields. There has, however, I believe, even with him, till recently, been but little hybridising or cross-breeding with vegetables; more, perhaps, and for a longer period, with fruits; and most of all, and for the longest period, with flowers.

The vegetables and flowers which I have improved by selection merely are somewhat numerous; among the former, Parsley and Brussels Sprouts.

Parsley was the first plant I endeavoured to improve by selecting for seed one or two individual plants from a large bed, the unusually double or curled leaves of the selected plants having pleased my fancy. The result was so striking in the following year that I was encouraged to persevere, and did so from year to year with increasing success, until Paul's Parsley became household words. Brussels Sprouts, the seed of which it was considered necessary in those days to import from the Continent, was the next plant taken in hand, and I proved over a series of years, to my own satisfaction at least, that it was neither the continental soil nor air, but the practice of a vigorous selection, that gave to the continental seed an acknowledged superiority.

The Aster was the next plant taken in hand, and with the same results. Stocks, Pansies, Roses, Cinerarias, Hollyhocks, Zonal Pelargoniums, Chinese Primulas, and Polyanthuses, were taken up in due succession, similarly dealt with, and similarly improved.

The Hollyhock would seem to demand at my hands more than a passing word. To the improvement of the flowers of this plant by selection, I gave long and close attention, from the year 1853 to 1857. Let me submit to your notice some of the results of the sowing of seeds from selected plants, without the interposition of artificial fertilisation. The variety Gloria Mundi (yellow) gave Sulphurea perfecta, Argo, El Dorado, Queen of the Yellows, and King of the Yellows, all yellow flowers; and Charles Barron, buff. El Dorado, a smooth yellow flower, gave yellow flowers only, bright in colour, but rough and irregular in form. Lady Willoughby d'Eresby (cream colour) gave a lot of rough dirty whites. Lady Franklin (deep pink) reproduced itself, and also gave sundry good rose-coloured flowers. Lady Palmerston (blush) gave a very fine brood of peach-coloured and pink flowers. Purple Defiance (purple) gave a rough lot of purples. Attraction (pink) gave a fine brood of pinks. Princess Royal (cream and chocolate) gave a rough lot of dirty cream and chocolate-coloured flowers. Crusader (pink) reproduced itself, and also others of similar colour, varying in form. Celestial (blush) reproduced itself, and various shades of blush of superb quality. Memnon (a fine crimson flower) produced regularly some plants bearing crimson, and others bearing purple flowers. Omar Pacha (cream edged with white) reproduced itself. A purple seedling of good form and substance gave some purple and some blush-mottled flowers of very indifferent quality. A salmon-coloured seedling of fine quality gave flowers of the same colour, but of indifferent form. A fine dark shining crimson seedling gave flowers, orange, fawn, and buff, of middling quality, but no crimson. A white-edged seedling gave flowers like the parent, but as a rule not so good. A fine rosy peach-coloured seedling gave rubbish. A nankeen-coloured

seedling reproduced itself almost without variation. A pure primrose seedling of very high quality gave some primrose-coloured flowers and some primrose with dark base, usually inferior to the parent. A French white veined seedling gave a lot of prettily and variously veined flowers. An orange-buff seedling gave also some few prettily veined flowers among many very rough ones, of the colour of the parent. A fine purple seedling gave purple, marbled, maroon, and lilac flowers, all of superior quality.

Now, it might appear at first sight that the above results militate against the theory of improvement by selection merely. But it is not really so. It must be told that the above is a record of general results only. In most cases few or many individuals might have been selected in advance of the parent. Let it further be remembered that this is the result of one year's growing only, and it certainly proves that a variation cannot always be fixed by a single effort, which we are perfectly free to admit. It shows also the tendency of the mass of seedling plants raised from cultivated or advanced varieties to revert to a less civilised state. It shows further, that a variation once obtained, new ground once broken, often proves a fertile source of further variation and advancement. But of this I shall give an example by-and-by. Now, I do not think that the variation in colour recorded in some of the above cases was due to fertilisation either by insects or other instrumentality. But it might be so. I merely express an opinion on this point, founded on the fact that the progeny of some varieties varied but slightly throughout successive annual sowings, whereas that of others varied greatly. The inference I should draw would be, that some variations are capable of a more rapid development, some are more sportive, and some more readily fixed than others.

It will be further inferred from the above facts that the finest flowers do not always produce the finest progeny. And I have found this circumstance corroborated in dealing with other plants. Certain individual sorts furnish a fine brood; others, apparently equally good sorts, an indifferent brood. Sometimes a flower or fruit of indifferent quality will produce a high-class progeny, and a high-class flower or fruit an inferior progeny. The whole question is, I admit, beset with difficulties, and offers a fine field for observations and experiments. The exceptions to the rule, that the best flowers proceed from the best parents, are numerous. Notwithstanding, unless we possess "special knowledge," we cannot do better than work upon this rule; for, if we reject it, we have nothing so good to put in its place.

One word as to the special knowledge just alluded to. Now and then a variation, peculiarly fitted for the work of progress, will arise. Many years ago, a Pansy, named Queen Victoria, raised by the late Mr. Thompson, of Iver, proved of this character; and more recently the Roses Général Jacqueminot, Jules Margottin, and Victor Verdier, may be taken as prominent instances. From these in their day, and for a certain period, many more good flowers were raised than from all others of the period put together. Now, if one acquires this special knowledge, there is sure ground to work on. But I know of no law by which this quality of a plant can be determined in advance. In the present state of our knowledge, I conceive that it can only be ascertained by observation and experiment.

I have raised many thousands of seedling Hollyhocks, Roses, Zonal Pelargoniums and other plants, simply on the principle of gathering the seed from the most advanced plants and flowers without any attempt at cross-breeding. My success under this method of proceeding has been greatest with Hollyhocks, as I could claim at one time (about 1857), the finest Hollyhock of almost every colour as of my production. This I account for by the fact that the subject was a good one for experiment. Although a flower long known to us, it had not been long subjected to high cultivation, and was fully ripe for improvement. With the Rose the case was somewhat different. It had been experimented on by clever and industrious men in France for a number of years, and, doubtless, I was here traversing ground which some of them had exhausted long before. However, success here has not been altogether denied me, and to which I shall have occasion to allude by-and-by. Of Zonal Pelargoniums, I was fortunate enough to become the possessor of a remnant of stock left by the late Mr. Donald Beaton; and while many of the variations and improvements that have issued from my nurseries are the result of mere selection, others have been carefully and systematically bred. The Polyanthus is a flower with which I am now carrying on experiments, with the view of rendering it more available in spring gardening. Four years ago I selected certain colours from a bed of mixed seedlings, with the view of saving the seeds of each separately, hoping in time to be able to reproduce each colour true from seed. The first sowing produced all colours from each variety, and while subsequent sowings have done the same, yet each successive sowing brings a larger proportion of the colour of the parent; and I do not doubt that ultimately each variety will become fixed—that is, will reproduce itself true in colour from the seed.

With regard to the progress of improvement after selection, it would appear that the greatest progress does not take place when the variation is young. The most marked progress from a cultivator's point of view seems to occur when the variation has been some little time under cultivation, but before it loses the extra vigour not uncommon to selected variations. A case illustrative of this view has recently come under my observation. It is that of a plant of the Primula sinensis, which I recently exhibited before the Royal Horticultural Society, under the name of Waltham White. It is a white-flowered variety with red leaf-stalks (the white-flowered variety has commonly greenish white leaf-stalks). The growth is exceedingly vigorous, the plant bearing a huge pyramidal truss of large pure white flowers, of great substance. It is, in fact, a giant among Primulas, and a giant of goodly and fair proportions. Now, nothing could have been more unpromising than the original variation from which this grand result has been obtained. It was a coarse weedy-looking plant, bearing rough misshapen flowers; but there were the distinct features of extraordinary vigour, and the red leafstalk. The first year's sowing from this plant produced more variation than improvement; the second more improvement than variation; and now, in the fourth year, the characters above described seem fixed, for all the seedlings raised from a choice pod of seed have bloomed so nearly alike in colour, size, form, and habit, that the variation may be fairly pronounced improved and fixed.

Thus far I have confined my remarks to the variations of plants from seed which appear to arise spontaneously, and are of everyday occurrence. But there are other variations occasionally taking place, which are known to cultivators under the name of "sports." Sports are variations from the leaf-bud rather than from seed, and I class them under selection, because in their case man does not intentionally step in with the view of giving a turn to the workings of Nature. Cultivation may, and in many cases probably does, induce "sports," but cultivation is not deliberately pursued with that object. As an example of these we may instance the well-known case of the Nectarine, which was a sport from the Peach—that is, a branch of a Peach tree produced the smooth-skinned and otherwise different fruit known as the Nectarine. My first efforts at improving the Rose were made in 1843, and were induced by discovering a sport. I observed a branch and flower of the Bourbon Rose Proserpine, then recently introduced, of extraordinary vigour; the flowers were larger and somewhat lighter in colour than in the original; the leaves were of a lighter green, more obtuse, and destitute of the customary red nerves and red colouring round their circumference. This, which I believe I am right in speaking of as a sport, was, nevertheless, not a very marked example of this tendency. It was cultivated separately and fixed, but did not depart sufficiently from the original to be thought worthy of a new name, and was, consequently, sold as a superior variety of the Rose Proserpine. About the same time I observed a branch of the Rose du Roi, bearing pale flesh-coloured flowers. This branch was propagated, and the new colour fixed. When about to distribute this as a novelty, to my surprise I received it from France, under the name of Celina Dubos! Now, although I know nothing of the history of Celina Dubos as received from France, I yet know that it was identical with my sport, and I think it is reasonable to conclude that it originated in the same way. Also, about the same time, I observed a branch on the Rose Dr. Marx, producing leaves finely striped with gold; and a branch of the Bourbon Queen, with leaves beautifully variegated with white. Both of these sports were propagated and fixed. Of Roses, the Moss group is the most inclined to sport. I have, in days gone by, frequently seen two or three varieties of the Moss Rose growing on the same plant. I have seen the Baronne Prevost, which is naturally a double rose-coloured flower, produce striped flowers, and others nearly single. I have also seen Mrs. Bosanquet, a white Rose, produce a branch bearing red flowers.

But the most notable recent case of this tendency is that of the new Double Crimson Thorn; and this is remarkable in having been observed in two different places about the same time. It should be told, however, that both these plants had been purchased from the same stock. The particulars of one case are as follows:—A tree of the Double Pink Thorn had been planted in a garden some fifteen or sixteen years, when a branch was observed to have started away from the centre of the tree with unusual vigour. It flowered, and lo! the flowers were crimson instead of pink, presenting a marked contrast to those on the lower part of the tree. The leaves, too, were of larger size, greater substance, and more deeply lobed. Young plants were propagated from this branch by budding and grafting, and the character was fixed.

A few words with regard to the fixing of variations or sports seem desirable here, and with that I shall close this part of my subject. We have seen that variations or sports are, when reproduced from seed, liable to vary greatly in character, with a general tendency to revert to the type. From the first sowing there will probably be but few like the variation, but by successive repetitions of the process of sowing and selecting the variation is at length fixed. It is thus that many of our races of annuals, as Asters, Stocks, Clarkias, Candytufts, Tropæolums, and the like, not readily propagated otherwise than from seed, have been obtained. But the process of fixing variations or sports from the leaf-bud is almost certain to proceed without interruption. You graft, bud, or make cuttings of the sported branch or plant, and the plants so propagated remain unchanged.

I will now proceed to the second part of my subject—namely, the improvement of plants by hybridising and cross-breeding. I have said that in hybridising and cross-breeding we start with a conception which we labour to convert into a fact. For example, we find existing in two separate flowers or fruits certain high qualities, as size, colour, form, flavour, mien, &c., which we seek to combine in one and the same individual. We cross or hybridise these two plants, sow the seeds, and after few or many attempts, one out of many is likely to give the desired result. As a guide in hybridising and crossing, it

should have been noted that our best observers are of opinion that hybrids and cross-breeds derive their form and habit in greater part from the female, the colours of the flower from the male, while the constitution may be acquired from either parent.

By hybridising we understand the crossing of two different genera or species, by cross-breeding the intermixture of two different varieties of the same species. Practically speaking, the work is the same. It would be out of place here to enter into a lengthened description as to how far the different species of plants may be hybridised. Doubtless, there are limits: I have tried on various occasions, and in various ways, to obtain a hybrid between the Pyrus spectabilis and the Cydonia japonica, two different genera, but without success; and I announce this because to acknowledge a failure is sometimes as useful to others as to record a success. On the other hand I have succeeded in raising hybrids between the Moss Rose (Rosa centifolia), and the Alba Rose (Rosa alba), two different species; also between a hybrid China Rose (R. gallica crossed with R. indica), and Rosa multiflora. Then, again, I have often tried in vain to obtain crosses between certain varieties. So that it does not seem to be exactly a question between species and species, or between variety and variety, as these are at present classified by botanists. I have found, however, as a rule, that the more nearly allied the varieties the more certain is the cross. The Tea-scented and Noisette Roses are found to cross readily, but then, although these form separate floricultural groups, they belong to the same species, R. indica. But the Hybrid Bourbon and Moss Roses also cross readily, and here we have intermixed three different species according to most botanists—R. indica, R. gallica, and R. centifolia. The grandest and the most beautiful of all the floral groups of the Rose—the Hybrid Perpetual—has a curious genealogy: R. gallica crossed with R. indica produced the Hybrid China; the latter crossed with an autumn-flowering variety of the R. damascena produced the Hybrid Perpetual.

My first attempt at crossing the Rose was made in 1843. I crossed three flowers of the Tea-scented Rose known as Gonbault with the Bourbon Rose Souchet, with the view of obtaining a dark-coloured Tea-scented Rose. Let me call these flowers C, D, and E. C produced a very large pod, which ripened perfectly, and gave ten large seeds. D produced a medium-sized pod with nine seeds of very unequal size, one being very large, four large, and four small. E produced a small pod, which contained thirteen small seeds. Of these thirty-two seeds four only germinated! Three of the plants were curious cross-breeds, of no floral value, and having little in common with either parent; and one, in leaf, habit, and flower, was very similar to the wild Dog Rose! As the seeds were sown in pots, and placed under glass, I do not think any stray seed could have found place among them. I was here, no doubt, unfortunate in the choice of my parent or parents, and I regard this issue as an instance of the well-known tendency which the offspring of some cultivated plants have of reverting to the normal form. The same year I crossed about forty other flowers, but the crop of seed was indifferent, and the result nothing worthy of record. This non-success led me to submit to microscopical examination the flowers of a number of varieties of the Rose, with the view of ascertaining which were likely to prove the best seed-bearers. The result of that examination is given in the "Rose Garden," second edition, pp. 96, 97. The conclusions I drew were:—1st, That certain varieties are sterile, incapable of forming perfect seeds under any circumstances. Of these I found such kinds predominate as roll the petals inwards, the centre of the flower being quartered in the manner of a crown. In others the pistils were weak or imperfect. 2nd, That many kinds where the pistils are perfect, which in their natural state form seed-pods that wither before arriving at maturity, may be induced to perfect their seeds by artificial fertilisation. This class of Roses is the best for him who intends raising seedlings to choose his female parents from, because there is little here to interfere with, mar, or counteract his plans. Be it remarked, however, that there are certain kinds which must not be confounded with the above—kinds which, owing to the length of time the seed-vessels are in arriving at maturity, never perfect their seeds in this country. 3rd, That those kinds which we find seeding abundantly in their natural state are self-fertilised, and that their abundant production of seed is due to this point mainly—the more perfect development of the organs of reproduction, especially the polleniferous parts of fructification.

Thus fortified I selected some twenty sorts of Roses, planted them in a separate corner of the nursery, and in the month of June, 1846, crossed nearly a thousand flowers. Success in seeding was complete. On the 30th of September of that year I gathered 223 well-ripened pods of seeds, some of them of extraordinary size. Two successive gatherings, of about one hundred pods each, were made at intervals of about a month, the whole number of hybridised and crossed pods gathered and stored amounting to 444. The seed was sown the same winter, vegetated during the succeeding spring and summer, and the seedlings bloomed at intervals over the next six years—that is to say, some bloomed the first year, others were six years old before blooming. The result of the hybridising and cross-breeding was apparent in many cases, but not in all. Two of the most striking and complete I will describe.

I had long thought that a dark bright-coloured climbing Rose was a desideratum, as at that time nearly all our climbing Roses were white or yellow. To obtain this I hybridised the Rose Athalie (hybrid Bourbon) with Russelliana (multiflora). Paul's Vivid, a bright crimson climbing Rose, of great repute in its day, and even now sought after, was raised from this effort. Again, I had conceived that if anything could add to the beauty of the Moss Rose, it would be to impart to it the exquisite tint of the R. alba or Maiden's Blush. To obtain this I hybridised the Moss Du Luxembourg with an Alba Rose, and among the offspring was a Moss Rose, with flowers like the Maiden's Blush, afterwards named Princess Alice.

A few years later I raised from one and the same sowing of English Rose seed, the Roses Beauty of Waltham, Lord Clyde, Red Rover, Globosa, Princess of Wales, Dr. Lindley, and, I believe, Duke of Edinburgh. Unfortunately, in these cases the parentage of the offspring was not preserved.

The next flower with which I experimented was the Hollyhock. I crossed numbers of these flowers in the years 1853-7. A blush seedling crossed with White Globe, with the view of obtaining better blush flowers, gave, among others, ten seedlings answering to this end. Fireball Superb, crossed with Metropolitan, with the view of obtaining a better scarlet Hollyhock, gave one plant of the character sought. A pink seedling crossed with Lizzie, with the view of combining the bright colour of the former with the quality of spike and flower of the latter, gave a large number of seedlings, twenty-three of which were realisations, more or less complete, of the object sought. These are three cases selected from many of similar import. With regard to the results in crossing the Hollyhock, I may add that Mr. Reeke, of Clewer, at one time a most successful raiser of seedlings, raised three of his most marked improvements, all differing in colour, from one fertilised pod of seed, whereas with seedlings raised from seed-pods not fertilised, he found the degree of progress slow and uncertain.

Some of my latest efforts in hybridising and cross-breeding have been directed to Zonal Pelargoniums. Attempts to hybridise the Zonal varieties with the Unique have never succeeded; and yet Mr. Wills has obtained hybrids between the Zonal and Ivy-leaved species, probably as distantly removed. He tells me that he hybridised some thousands of flowers without success, until he thought of dipping the hybridised flowers into water after applying the pollen, by which means he obtained seeds and seedlings, two of which, evidently hybrids, are now before the public under the names of Willsii and Willsii rosea. My experiments in cross-breeding have been numerous, but having been pursued chiefly with my own seedlings, which are unknown, I have little that is tangible to place before you. Two or three cases, however, in which the varieties were afterwards named and sold, may prove interesting, and give a clue to those who may care to trace them. Mrs. Pollock, crossed with a green-leaved seedling Zonal, produced some green-leaved, some golden-variegated Tricolors, and one golden-edged variety after the character of Golden Fleece. Amy Hogg, crossed with Crusader, gave the result sought after in Evening Star. Governor, crossed with Alexandra, also gave the result sought after in Clio. Dr. Hogg, crossed with Rebecca, again gave the result sought after in Pæan. Model, crossed with Firefly, gave also a form intermediate between the parents, which was afterwards named Annibal.

Leaving flowers, let us glance momentarily at fruits. I have now growing in my nurseries a breed of seedling Strawberries, the result of various crosses, the parentage on both sides having been carefully preserved. As they are not yet named, I can only speak of them as seedlings. Two seedlings, raised from Sir Charles Napier crossed with Myatt's Pine, are worthless. Of eight seedlings, between Eleanor and Carolina superba, four are worthless, one is flat and rough in flavour, one resembles Keens' Seedling in appearance, but is of a much richer flavour: one bears large fruit, remarkable for its solidity, of the shape of British Queen, with the fine rich flavour of Myatt's Pine; and one is a full-sized handsome fruit, of fine colour and good flavour, bearing abundantly, and of hardy constitution. Two seedlings between Oscar and Myatt's Pine are deficient in flavour. Of eight seedlings between Sir C. Napier and Crimson Queen, three are large handsome fruit, solid, heavy, of good colour and rich flavour; one is flat and insipid, one is very acid, and three have no prominent character. Of five seedlings between Filbert Pine and Myatt's Pine, one is large, of fine flavour, and very juicy; one is small, of good colour and flavour, solid—the flesh notwithstanding very tender; and three, one of which is a prodigious bearer, are deficient in flavour. Four seedlings between Oscar and British Queen are all deficient in flavour. Of seven seedlings from British Queen crossed with La Constante, five are worthless from the fruitist's point of view, although one is so distinct in habit as to be scarcely like a Strawberry, and one so positively nauseous in flavour that it leaves an unpleasant sensation on the palate long after tasting, yet from the same fruit and parentage one is of good flavour and another of positively fine flavour. Of eight seedlings raised from Admiral Dundas crossed with Crimson Queen, four are small and almost flavourless; two are large handsome fruit, of fine colour and fine flavour; one is very late, of pleasant but not rich flavour; and one is early, the fruit large, of moderate flavour, and produced in extraordinary quantities.

I shall now conclude these remarks with a few practical deductions. We have seen that in the improvement of races much may be accomplished by mere selection, but hybridising and cross-breeding, if in some cases and with some experimentalists unsuccessful are in the hands of others a shorter and surer road to the attainment of a given object. We have seen that our best vegetable physiologists are of opinion that hybrids and crossbreds derive their form and habit from the female, the colour of the flowers from the male, while the constitution may be acquired from either parent. This may be generally true, and is sometimes true, but the exceptions are so numerous that they

cannot, according to my experience, be said to prove the rule. It is generally admitted that the most perfectly developed flowers and fruits are the best for the improver to work upon, and this is, I believe, true as a rule, although still attended with exceptions. Personally I have learnt from my labours in this field never to lose heart or hope. For sixteen years, from 1843 to 1859, I had laboured with such qualified success in raising seedling Roses, that I had then minimised the amount of labour by omitting the costly process, in point of time, of keeping notes of parentage, &c., when in the following year, 1860, I was more than compensated for all past labour by the extraordinary flush of success already stated. I say, then, to my brother horticulturists who may be working in this field—Never despair; persevere and wait.

"Let us then be up and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to labour and to wait."

My experience in selecting, hybridising, and cross-breeding tells me that he who is seeking to improve any class of plants should watch narrowly, and seize with alacrity, any deviation from the fixed character, and the wider the deviation the greater are the chances of an important issue. However unpromising in appearance at the outset, he knows not what issues may lie concealed in a variation, sport, hybrid, or crossbred, or what the ground newly broken is capable of yielding under careful and assiduous cultivation. If we would succeed in this field we must observe, and think, and work. Observation and experiment are the only true sources of knowledge in nature, and while observing and experimenting we should above all things guard against prejudices.

My remarks have hitherto been chiefly of horticulture, and addressed to horticulturists. But there are three other great and important classes of the community who are deeply interested here—the agriculturist, the manufacturer, and the merchant, to each of whom I would momentarily address myself.

To the agriculturist I would say, You have of late years practised draining, deep cultivation, and high manuring, and the increased fertility of your soil has largely rewarded your industry, enterprise, and skill. The next step with you is the improvement of the races of your cereals and root crops. I have in the opening of this paper shewn what you may accomplish by selection merely, but you may do far more by cross-breeding. I believe that your produce may be improved and increased by this means beyond what the boldest thinker would at this moment dare to declare.

The manufacturer is also deeply interested in this question, in at least so far as the raw material he uses is drawn from the vegetable kingdom. As the horticulturist has by selection and cross-breeding increased the size and substance of his flowers, so may the manufacturer or his growers, by selecting from other special points of view, increase the productiveness, strengthen or soften the fibre of their cotton, flax, hemp, and jute.

Again, if the horticulturist can increase the size and productiveness, advance or retard the seasons, and improve and vary the flavour of his fruits, why should not the merchant or his agent do the same with his teas, coffees, cocoa, and other vegetable productions? There can be no question here that the one is as open to modification as the other; it only requires the thoughtful interposition of the skilled brain and hand.

Thus, we see how vast are the interests involved, how rich in prospect the unexplored territory in which the horticulturist may be said to be the pioneer. The agriculturist, the manufacturer, and the merchant should in their own interests, as well as in the interests of society at large, lend him a willing and a helping hand, and he in his turn should rejoice to find his labours acceptable and capable of so wide and beneficial a diffusion. I stand before you this day and declare, what I honestly believe, that we are here waiting, but working, at one of the chief gateways of a grand Temple of Science; and not many years will elapse ere its secrets shall be revealed, to the surprise, delight, and profit of the human race.—William Paul, *Waltham Cross.*

[We shall publish other papers next week.—Eds.]

STRAWBERRY RUNNERS.

It is an error to suppose that the first runner is less prolific than the second on the string. I invariably choose the first runner, and cut off the string beyond it. The Editors have given the true reason. Some soils are so good that they drive the runner into foliage instead of crowns. This does not often occur. There is another error in the opposite direction—viz., that only the first runner is prolific. If the plant is not staminate (*i.e.*, a male plant; most of our European sorts are hermaphrodites), the last runner would be equally prolific, but it could be planted later, and hence would not bear so well as the early runner.—W. F. Radclyffe.

Covering Seeds.—I may have missed seeing it recommended, but I have never found any covering for small seeds equal to short grass mown from the lawn. This is strewn over the seeds to about half an inch in depth, and then the usual watering given. It soon shrivels and becomes light, so that the seeds come through it freely. The birds, at least here, never attack them, and my crops never fail. At this Cabbage-sowing time it will be found most efficient.—T. R.

AMONG THE SWISS LAKES.—No. 2.

Geology and archæology have taught us from facts—and facts, like figures, are tough evidence, that we have wrongly interpreted the only written record of man's first existence on our globe. Those facts tell that man was here ages before that in which he has been usually thought to have been created. Prominent among those facts are the remains of the *Pfahlbauten*, or lake-dwellings, in Lake Zurich. That word of ugly aspect is a pure German word, signifying "pile-buildings"—houses on a structure of piles or posts. The inhabitants lived many thousands of years ago, but have left "no record of their date remaining" but the submerged remains of those piles, the stone implements they employed, and fragments of their daily surroundings that have been extraordinarily preserved in the peat formed where water had been below their dwellings. The first discovery of the remains of these dwellings has thus been told:—"In 1853, the inhabitants of Ober-Meilen, a village on the lake of Zurich, availed themselves of the unusual lowness of the waters to reclaim a piece of land from the lake. The excavations disclosed a number of remains of deeply-driven piles, formed of various forest trees. In the mud around these piles the attentive investigation of Dr. Keller detected the remains which threw the first light on the nature of the discovery. There, heaped together, lay stone axes, and hammers, and chisels or celts with their hafts of horn, rude implements for crushing corn, a great variety of coarse pottery, implements of bone, lance and arrow-heads, knives, saws, &c., all of flint, in rich abundance, although flint is not a natural product of Switzerland. Some of the smaller celts, or chisels, are formed of nephrite, a species of transparent jade, a stone imagined to be entirely peculiar to the East. The saws, in particular, are curious examples of human ingenuity under difficulties. They are formed of length in flakes of flint, one edge of which is finely notched, and the other fitted into a neatly formed long wooden handle, the perfect preservation of which may probably be attributed to the antiseptic influence of the peat wherein it had so long remained. A kind of bituminous cement appears to have been used for securing the saw in its handle. The

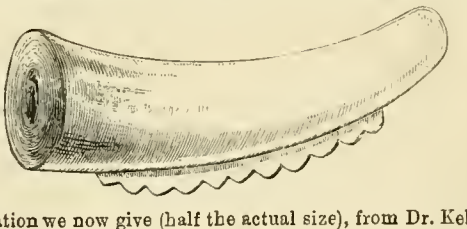


illustration we now give (half the actual size), from Dr. Keller's drawings, is from the lake of Neuchâtel, and presents the singularity of a handle formed from the tip of a stag's antler. These saws were probably used for working horn and bone.

"One would like to know how the pile-driving was managed, but driven the piles were, at a distance of from 1 to 300 feet from the shore, at a depth of 6 or 7 feet, gradually advancing into deeper water. They were then extended parallel with the shore till the *pfahlbau* assumed somewhat of the form of a narrow parallelogram. At Morges, on the lake of Geneva, the piles extend '1200 feet in length, by 120 in width, giving a platform surface of some 18,000 feet. On this M. Troyon calculates that some 316 cabins may easily have stood; which, only allowing four persons to a cabin, would give a population of 1264.' On these piles, driven at short intervals, was laid a platform on which stood the cabins, constructed, as there is good authority for believing, of wattled work plastered with clay. From the extraordinary number of reliques found it is supposed the planks of the platforms were not set close together, and that things were hence continually falling through; but there would scarcely appear need for such an hypothesis. It is clear that the great mass of *pfahlbauten* were fired, purposely or accidentally. In buildings so constructed fire would spread too rapidly to allow the inhabitants to save much of their property, which accordingly would sink to the bottom of the lake. Indeed, the carbonised state of many things, especially the vegetable products, has preserved them for the examination of modern science.

"In the masses of carbonised grain discovered at Wangen,

and elsewhere, Professor Oswald Herr recognises several cereals,—Triticum vulgare; Triticum dicoccon; also Hordeum distichon, and Hordeum hexastichon. The *pfahlbauten* of Wangen and Robenhausen have also furnished abundant examples of a coarse bread savouring rather of bruised corn than meal. It was probably baked on hot stones, and covered with hot embers, just as in the Rigsmaal Saga 'Edda drew out from the embers a bread cake, heavy, sticky, and full of bran.' In the same *pfahlbau*, too, were stores of Apples and Pears cut into halves and quarters, and dried in the sun for winter food. The custom holds in Switzerland to this day, and these dried Apple cuttings are sold by measure in the markets under the name of *schitze*. From the size of some of this carbonised fruit it would appear that the Apples must have been of a cultivated kind,—so these people were acquainted to a certain degree not only with corn, but with fruit culture.

"Flax and hemp they certainly had, and the means of spinning it, which was of the last necessity for their nets. Nothing exists to show any knowledge of the art of weaving, but they contrived to manufacture a coarse flaxen plaited material. In addition to their other means of subsistence they had always the lake at command, and the great variety of fish-hooks discovered shows that they knew how to take full advantage of it with the line as well as the net."

Great, indeed, was the interest with which I inspected the numerous relics of the Pfahlbauten preserved in the Zurich museum. The sharpened ends of the piles, I think, show that they were of a Coniferous tree, probably Abies excelsa. The Apples, halved, are black masses; they were evidently carbonised by exposure to intense heat whilst the air was excluded. They were probably stored in close vessels. The pulp is black, a mere mass of charcoal; the core is somewhat paler, and the pips are quite distinct, as shown in this portrait of one.

What thoughts crowd upon one! What reflections that we are looking upon forms that other human eyes looked upon, since which so very many thousands of years have passed! Then, probably, as now, a winter store of dried fruits was essential for the preservation of health. I pondered over the uninterrupted succession of Pear, Cherry, Walnut, and Apple trees that margin *all* the roads in the Swiss valleys, and wondered what could be done with their produce. I at last was told. In winter the dried fruit is almost the only vegetable produce, except bread, that is available to mingle with their animal food. In some alpine districts that animal food is only such as has been salted, and the consequences have been told by the Rev. Mr. Macmillan in his most interesting little volume, "Holidays on High Lands." Speaking of the monks of St. Bernard, he says, "During winter they have no fresh meat, being obliged to subsist upon salted beef and mutton, usually killed and preserved in September, and, which is worse still, they have no vegetables, all attempts at gardening in the place having proved abortive, so that not unfrequently scurvy is added to their sufferings."

The fruit of the Cherry, including the stone, is crushed, fermented, and a spirit distilled from the mass, so potent and pleasant, that it is degraded by being named, as it is named—"Cherry-*water*"—Kirschwasser.

In the Zurich museum are preserved many other relics besides those of the lake-dwellers; but I must not linger here over "The Twelfth-day Queen," Jane Gray's neatly-written letters to Bullinger, nor to the "infirm-of-purpose" looking scrawl of Cranmer; but I note more fittingly for your pages, that there are original and very satisfactory portraits of Conrad Gesner, Scheuchzer, and Lavater.

Now, for a few words on the vegetable products of the Swiss valleys, and first of these must be the fruit trees, for no object strikes a stranger more forcibly than the continuous orchards and vineyards which line both sides of all the roads in all these valleys.

The vineyards almost exclusively are confined to the mountain sides, where they blend with the valleys, and they do not, by their produce, deserve much further notice. With scarcely an exception, the wines manufactured from their Grapes are thin and acid, and not one is equal to good cider. The only exception was that to which was applied the not-over-refined name of Lunfrauenmilke—"Pretty Maid's Milk." I was laughingly told that we English expect every country like our own to have districts noted for something pleasant to the palate, such as our Yorkshire hams, Norfolk dumplings, and Cheshire cheeses, and to celebrate anniversaries by special eatables, as plum puddings at Christmas, buns on Good Friday, and pancakes on Shrove Tuesday. But I had an avalanche of instances to retort upon my assailant, for every Swiss town has some gourmandic specialty. Bale, the first town within the Cantons, has its leckerli, a thick kind of parliament—I mean a cake, not an assembly of presumed wise men; and in every town I passed through there was some notable eatable, until I escaped through the last municipality, Geneva, without being made dyspeptic by its gingerbread.

The Pear trees are next predominant in numbers, for their fruit, as I have already mentioned, is cut into halves, dried, and consumed largely in winter. It was too early in the summer for me to ascertain the chief varieties cultivated, but ripe Little Muscats were then (the first half of July) plentiful in the markets. The Cherries—Bigarreaus, Black Hearts, and a red Flemish, were also very abundant, selling retail at the rate of 2½ lbs. for 4*d*. Walnut trees are numerous everywhere, but Apple trees are scant, and Plum trees still more rare. Bilberries and Alpine Strawberries were plentiful in the markets, and by the road sides where shaded by trees. Of kitchen vegetables there were abundance of all kinds common in our markets, and the only peculiarity I noticed was that more white Carrots were offered for sale than those that are red-rooted. Of Peas, also, there was a prevalence of the Sans Parchemin.

Of ornamental trees, the prevalence of the Catalpa is remarkable, and especially for the freedom of its blooming. Tilia microphylla is also quite as much cultivated as is the common Lime, or Linden tree, with us. Its foliage is not so bold, as that of the latter, but its flowers are far more abundant, open earlier, and are more fragrant.

Of the wild flowers I can say but little, for I had to pass rapidly through the districts where the Alpine Flora is richest. Two plants, however, must attract even the notice of eyes looking from the windows of a railway carriage—the red-berried Elder (Sambucus racemosa), and the Yellow Foxglove (Digitalis lutea). Why are they not more cultivated in England? They are very ornamental. Then the Campanulas are strikingly numerous. There are thirteen species in the vicinity of Lucerne, ranging from the C. pusilla, barely an inch high, to the C. pyramidalis, which is 4 feet. All I saw impressed me with the opinion that they were deeper in colour and larger in flower than the same species which I had seen in other European countries, and I find the same observation made by the Rev. Mr. Macmillan:—"The flower that touched me most was our own beloved 'Scottish Blue-bell.' I was surprised and delighted beyond measure to see it hanging its rich peal of bells in myriads from the crevices of the rocks around, swaying with every breeze. It told in fairy tones the music of 'Home, sweet Home.' It was like meeting a friend in a far country. It was the old familiar Blue-bell, but it was changed in some respects. Its blossom was far larger, and of a deep purple tinge, instead of the clear pale blue colour which it has in this country. It afforded a striking example of the changes which the same plant undergoes when placed in different circumstances. I could see in its altered features modifications to suit a higher altitude and a severer climate. In the Alps all the plants have blossoms remarkably large in proportion to their foliage, and their colours are unusually intensified, in order that they may get all the advantage of the brief but ardent sunshine, so as to ripen their seed as rapidly as possible."

And having thus quoted his charming book, I will further extract from it a passage to compensate my own Alpine botanical shortcomings, and will add the recommendation to the reader to purchase the volume, for it is most excellent.

"The Alpine Forget-me-not, only found in this country on the summits of the Breadalbane mountains, cheered me with its bright blue eyes everywhere; while the 'Alpine Lady's Mantle' spread its grey satiny leaves, along with the Arctic Willow, the favourite food of the chamois, over the stony knolls, as if in pity for their nakedness. I found a few specimens of the beautiful lilac Soldanella alpina, and also several tufts of the glacier Ranunculus, on a kind of morain at the foot of a hardened snow-wreath. The Ranunculus was higher up, and grew on the loose *débris*, without a particle of verdure

around it. It seemed like the last effort of expiring nature to fringe the limit of eternal snow with life.

"On this hill [Mont Chenaletta], composed of very friable schistose rock, I gathered a considerable number of very interesting plants peculiar to the Alps. The Arnica montana displayed its large yellow composite flowers in the shady recesses of the rocks; and, as if to illustrate the proverb that the antidote is ever beside the evil, I found its juicy stems very serviceable in healing a bruise on the leg which I got from a falling stone when gathering specimens. Another composite plant, the Chrysanthemum alpinum, whitened in thousands the slopes of *débris*. It has been observed, with Phyteuma pauciflora, beside the Lys glacier on Monte Rosa, at 11,352 feet. Nothing could exceed the beauty and luxuriance of the patches of Linaria alpina, covered with a profusion of orange and purple labiate blossoms, which spread everywhere over the loose soil. No less striking were the sheets of Forget-me-not-like flowers, blue as the sky itself, produced by the Eritrichium nanum, growing in the moist sunny fissures. At the base of the hill on the Italian side, where there was a slight tinge of grassy verdure, the yellow Star of Bethlehem (Ornithogalum fistulosum) and the Nigritella angustifolia struggled into existence. The former rises an inch or two above the soil, and produces two or three brilliantly-yellow flowers on each stem; while the compact showy heads of deep blackish crimson flowers of the latter, springing from very short and very narrow leaves, diffuse a fine vanilla-like fragrance. At lower elevations they grow in great profusion, and form the finest ornaments of the Alpine pastures. Among the Saxifrages which I observed growing more or less plentifully were the S. androsacea (of which I could get no specimen perfect, for the marmot is so fond of it that it nibbles its stems, leaves, and flowers all round), the S. bryoides, Aizoon, biflora, cæsia, and muscoides. A short distance below the summit there were several large snow-wreaths. Their perpetual drip nourished a glowing little colony of the unrivalled Gentiana bavarica, and the compact sheets of the Androsace glacialis, sprinkled over with bright pink solitary flowers. In one place there was a curious natural conservatory. The under surface of the snow having been melted by the warmth of the soil—which in Alpine regions is always markedly higher than that of the air—was not in contact with it. A snowy vault was thus formed, glazed on the top with thin plates of transparent ice; and here grew a most lovely cushion of the Aretia helvetica, covered with hundreds of its delicate rosy flowers, like a miniature Hydrangea blossom. The dark colour of the soil favoured the absorption of heat; and, prisoned in its crystal cave, this little fairy grew and blossomed securely from the very heart of winter, the unfavourable circumstances around all seeming so many ministers of good, increasing its strength and enhancing its loveliness."—G.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 3RD.

FRUIT COMMITTEE.—George F. Wilson, Esq., F.R.S., in the chair. Prizes were offered at this meeting for Peaches and Nectarines grown under glass. The first class was for the best dish of Peaches grown in pots. Mr. Douglas, gardener to F. Whitbourne, Esq., Lexford Hall, Ilford, sent a fine dish of Royal George, and well ripened; and as this was the only exhibition, it was awarded the first prize, to which it was well entitled. The second class was for a single dish of Peaches grown on planted-out trees under glass. Mr. Tillery, of Welbeck, sent Early Grosse Mignonne; Mr. Turner, of Slough, Violette Hâtive, and Mr. Beach, of Kingswood Warren, Epsom, sent a variety without a name. The first prize was awarded to Mr. Tillery, and the second to Mr. Turner. Class 3 was for a single dish of Nectarines grown in a pot under glass. Mr. Douglas and Mr. Tillery were again the competitors. The first prize was given to Mr. Tillery for Elruge, misnamed Murrey, and the second to Mr. Douglas for Rivers' Orange. In Class 4, for Nectarines from trees planted-out under glass, there was no competition. In Class 5, for the best collection of Peaches and Nectarines, Mr. Douglas sent five very fine dishes of Peaches, and six of Nectarines, and these received the first prize. Mr. Earley, of Digswell, exhibited a dish of Moorpark Apricots from the open wall, the flavour of which was exquisite, being perfectly ripened all round.

Mr. Turner, of Slough, sent a dish of very handsome fruit of Bigarreau Napoléon Cherries. Messrs. Bell & Thorpe, of Stratford-on-Avon, sent a seedling Bigarreau Cherry raised by Mr. Haydon, but it does not possess any merit superior to others in cultivation. Mr. Rivers, of Sawbridgeworth, sent fruit of Late Purple Guigne and Noir de Germersdorf; the former a rather hard-fleshed Cherry, and the latter delicious and melting. Mr. Rivers also sent Florence and Bigarreau Napoléon. Mr. Rivers sent fruit of a seedling Plum raised from Brahy's Green Gage crossed with July Green Gage. It is larger than the Early Rivers (Early Prolific), and with a well-marked flavour of the Green Gage. It was remarked by the Committee that this, if an early Plum, will be a valuable addition to our collections. It is remarkable that by the crossing of these two round green Plums the result should be an oval purple one. Another interesting exhibition from Mr. Rivers was a collection of twelve little Apple trees, not a yard high, laden with fruit, which were packed as closely as Onions on a rope. These trees were produced by being grafted on the Nonesuch stock, largely used by Mr. Rivers for the purpose of dwarfing the Apple, and its adaptation for the purpose is proved by the result. G. T. Davey, Esq., Colston Bassett, Bingham, Notts, received a special certificate for two good bunches of Muscat Champion, unusually well coloured.

A special certificate was awarded to Mr. McIndoe, gardener to the Archbishop of York, for remarkably well-grown specimens of Muscat St. Laurent. These were fully 8 inches long in the bunches, which is double the size to which this variety is usually grown, and the plant was grown in the pot with fifteen bunches.

G. F. Wilson, Esq., exhibited excellent fruit of Beurré Giffard Pear, ripened on pot trees turned out in the open ground. They were rich in flavour. Mr. Cooling, of Broad Street, Bath, sent fruit of Brailbrook Seedling Apple, but it was not ripe. Mr. Sidney Ford, Leonardslee, Horsham, sent a fine dish of Knight's Long-bunched Red Currants. Mr. George Lee, of Clevedon, sent branches laden with fruit of a seedling Black Currant, and a dish of bunches. The Committee approved so highly of this Currant that they named it Lee's Prolific Black, and awarded it a first-class certificate. The merit of this variety is its great fertility, the branches being thickly set with large bunches of very large berries; the firmness with which the berries adhere to the stalks, a tolerably violent shaking having failed to remove them; and the unusual mildness and richness of flavour. This is, without doubt, the finest-flavoured of any of the varieties of Black Currant, and may be used as a dessert fruit. Mr. Turner, of Slough, received a special certificate for a collection of Potatoes; and Messrs. Bell & Thorpe, of Stratford-on-Avon, exhibited a collection of seedling Potatoes, of which the Committee could not form an opinion without having tried them.

Plant labels were exhibited from Messrs. Maw & Sons, Benthall Works, Broseley, Salop, improved by leaving out the name of the firm, the lettering of which formerly took up one side of the label.

FLORAL COMMITTEE.—Rev. J. Dix in the chair. Messrs. Jackson, of Kingston, exhibited a fine specimen of Allamanda Hendersoni, which was awarded a special certificate. This specimen completely sets at rest the vexed question of A. Wardleana, which specific name the Committee now ignore. The same firm sent six fine specimens of Erica, which received a special certificate. Mr. Bull sent a specimen of Odontoglossum Schlieperianum, for which a second class certificate was awarded; Calamus intermedius, which had a first-class certificate; Colens atropurpureus, &c.

Messrs. A. Henderson, of Pine Apple Place, sent Allium acuminatum, an old plant; Triteleia laxa, likewise old. From Mr. R. Debron came a variety of Lilium auratum. Mr. Dawson, The Cedars, Chiswick, sent seedling Nosegay Pelargoniums Elizabeth, and Chiswick Beauty, a Silver Bicolor. Mr. Reid, Sydenham Hill, sent Nosegay Pelargonium Mrs. Reid; Mr. T. Ford, Hersham, seedling Zonal Pelargoniums Sussex Rival and Orange Boven, far behind the flowers of this class.

Messrs. Chater sent nine spikes of seedling Hollyhocks; Constance, Walden Queen, Carus Chater, and Leah, received first-class certificates; three cut blooms of Juno, a first-class certificate. A special certificate was awarded for two beautiful boxes of cut flowers. Messrs. Chater's flowers were all good and up to the mark, but required novelty, which we believe is difficult to be obtained in Hollyhocks as well as many other flowers. It will be a new era for the florist to be introduced to a sensation flower. Mr. C. J. Perry sent seedling Verbenas. Here, again, we have nothing strikingly or distinctively new. They were R. H. Vertegans, dark purple; Thos. Hyatt, shaded red; Joseph Sanders, bright scarlet; Rev. J. Dix, pale blush with intense dark eye. Each received a first-class certificate. Messrs. Bell & Thorpe sent Tricolor Pelargonium Macbeth, which, being very distinct, received a first-class certificate. Among a box of cut Petunia flowers, Single Beauty, a distinct variety, was awarded a first-class certificate.

Messrs. Veitch received a first-class certificate for a new distinct Dieffenbachia, and a special certificate for a very beautiful collection of plants.

Mr. J. Hally, Blackheath, exhibited a double rose-coloured Pelargonium called Mrs. Hally, far inferior to Marie Lemoine. Mr. H. Tirebuck, Luton, sent seedling Nosegay Pelargoniums Mrs. Fish, Mrs. Amee, Miss Sowerby, Madam Grisi, and Gustave de Rothschild, a pink full-trussed variety, which last received a first-class certificate as being promising for bedding purposes. He also sent Empress, silver-variegated. From Mr. Eckford, gardener to the Earl of Radnor, came Zonal Pelargonium Coleshill, bright scarlet, which received a first-class certificate. He also exhibited a seedling Ivy-leaved called Lady Edith, a pretty rose-coloured flower, but not equal to Mr. Wills's variety. Mr. Groom, of Ipswich, sent white Zonal Mr. Sach,

a nice flower but with a small truss, thought not equal to older white varieties.

Messrs. Smith, Dalwich, contributed a collection of Balsams, for which they received a special certificate. These were not equal to collections sent in former years; they had not the refined quality. Is it that they are wearing out, and require a change of soil and atmosphere?

Mr. Lawrence, gardener to the Bishop of Winchester, received a special certificate for two fine specimen Orchids—viz., Dendrochilum filiforme and Epidendrum radiatum. Messrs. E. G. Henderson, of Wellington Road, sent Cattleya El Dorado, Amaryllis reticulata, Gnaphalium tomentosum, and Achyrocline Sandersoni. From Mr. Kinghorn came a dark-banded variety of Lilium auratum; and from Mr. W. Earley, gardener to F. Pryor, Esq., Digswell, cut specimens of the beautiful Passiflora Belloti. Mr. Green, gardener to W. W. Saunders, Esq., exhibited a novel and curious form of Orchid, Trichotosia ferox. A first-class certificate was awarded this specimen as an interesting botanic specimen, and not for its beauty. In the same collection as this were Myanthus species nova, Catasetum tridentatum, and a new species of Dieffenbachia from Brazil, which received a first-class certificate.

Mr. G. Smith, of Hornsey Road, was awarded two first-class certificates for seedling Hybrid Nosegays Soleil and Claudius, the latter producing the finest globular truss of flowers yet seen. Both varieties are of the highest merit. Mr. Smith seems to have hit upon a very distinct strain of Hybrid Nosegays. Le Grand, Eclat, &c., have proved themselves this season most valuable.

Mr. Pilcher, gardener to S. Rucker, Esq., exhibited a most exquisite specimen of Hæmanthus cinnabarinus, its globular truss of orange-coloured flowers was much admired—first-class certificate. Mr. T. Howlett, Oxford, sent a very beautiful form of Athyrium Filix-fœmina—kallothrix. So delicate are the pinnules, that the plant reminded us of a Todea; it is a seedling variety from Athyrium F.f. plumosum. A first-class certificate was awarded it. Mr. B. Porter sent seedling Pentstemons, in no way distinct or new. Messrs. Standish & Co. sent specimens of their distinct Todeas pellucida compacta, which had received an award on a previous occasion. Mr. Ware, of Tottenham, sent a golden variety of Lysimachia nummularia, and G. F. Wilson, Esq., specimens of Lilium auratum, with an extra number of petals, stamens, &c., as a botanical curiosity.

General Meeting.—G. F. Wilson, Esq., F.R.S., in the chair. After the election of two new Fellows, and the announcement of the Committee awards, the Rev. M. J. Berkeley, in commenting on the most prominent of the subjects exhibited, directed attention in the first place to Triteleia laxa, which, he said, he at first thought the same as Brodiæa grandiflora, but he found that in the latter there were three perfect stamens, in the Triteleia six. Cyclobothra, a genus of plants which Mr. Wilson Saunders had lately brought under the Society's notice, was next referred to as being well worthy of reimportation, though rather difficult of cultivation, on which account a fine collection which he had seen thirty years ago had been lost. Brownea grandiceps, of which Mr. Bull exhibited a specimen, though handsome in leaf, was stated to be still more remarkable when in flower, and Mr. Berkeley said a plant of it in Flintshire had attained such dimensions, that the house in which it was growing had three times to be raised. Leea excelsa was then noticed, as being nearly related to the Vine, and it was remarked that the genus was named in honour of Mr. Lee, the author of an old work on botany, and grandfather, the speaker believed, of Messrs. Lee, of Hammersmith. Dendrochilum filiforme and Epidendrum radiatum, from the Bishop of Winchester's gardener, were noticed as the most remarkable specimen Orchids shown, and the former was said to have as many as 10,000 flowers. Another was Odontoglossum Schlieperianum; while perhaps the most curious of all was Trichotosia ferox, from Mr. Wilson Saunders, which had never flowered before in this country, though other plants existed. After referring to Athyrium Filix-fœmina kallothrix as being a remarkably elegant variety of the Lady Fern, and more like a Todea than an Athyrium, Mr. Berkeley drew attention to an insect Mr. Bateman had brought him, and which was a thing of great beauty, the eggs being borne on slender stems. It was a species of Hemerobius, which he had more than twenty times received as a Fungus, and which had actually been described by Corda as such. Mr. Berkeley then stated that the seeds of a Gherkin distributed by the Society were those of Cucumis prophetarum, which, along with flowers and pieces of the fruit of the Papaw, is found in West Indian pickles. Mention was next made of a variety of Cichorium Intybus, raised by Mr. Earley, of Digswell, and which, though it had white flowers, all the seedlings from it, numbering two hundred, had, without exception, the ordinary blue flowers. A tree at Chiswick, of which Mr. Berkeley produced a specimen, was stated to be Pterocarya caucasica, known also by several other names, a near relation of the Walnuts, and though it had been said to be extremely tender, it had proved hardy at Chiswick. A number of monstrosities were then shown and commented upon. Among them was a white Lily, each flower forming a spike consisting of a number of bracts. Another case was a Balsam, in which an immense development of coloured leaves had given it the form of a Carnation; another instance was an Allium, in which bulbs had taken the place of what ought to have been flowers; and, lastly, there was a bunch of Grapes which had become, stalk and all, transformed into a fleshy mass.

The next meeting will be held on the 17th inst.

THE ROYAL HORTICULTURAL SOCIETY'S ARRANGEMENTS FOR 1870.

We need hardly say that the Council of the Royal Horticultural Society have done well to make this timely announcement of the Shows to be held next year. The fault in past years has generally been that schedules are issued too late, and the public have not the necessary time allowed them between the appearance of the schedule and the holding of the shows to make the requisite preparations. Plants are not like easily-manufactured articles, that can be produced in exhibiting form off-hand, and in most cases more than one season is required to enable the exhibitor to show them with any prospect of success.

It will be seen from what follows, that all the meetings of next year will be held on Wednesdays. These will be, in fact, the present Tuesday meetings held a day later in the week, so as to enable the great mass of the upper classes, who keep Wednesday as a holiday in the metropolis, to be present at them. It must be borne in mind that the schedule now announced does not in any way supersede the present Committee meetings, but is rather supplementary to them. The Committee will sit as usual for deliberation and decision on the Wednesdays, and those beautiful exhibitions with which we are now familiar being supplemented by the collections mentioned in the schedule, the Society will be enabled to offer to its Fellows and the public attractions such as they have never before been accustomed to. The present announcement being merely general, as indicating the classes of subjects that will be exhibited, the details as to the subjects and the amount of prizes offered will be given shortly.

It will be observed that there is no mention here of a "grand show." "Grand shows" have been found by long and painful experience to be synonymous with grand financial failures, and no society, any more than individuals, is justified in pursuing a course the end of which is ruin. We commend the Council for having taken this bold step, and having asserted the principle of honesty over generosity. There is no limit now-a-days to "grand" undertakings, and grand shows are no exception. Our notion is, that he who would attempt to satisfy the human mind by his own conception of grandeur will signally fail. There is nothing material too great or grand for the human mind to compass, and, when once compassed, then begins the thirst for something grander still. Witness our grand concerts, with their thousands of singing men and singing women. How much more numerous must they become before the cravings of "the public" are satisfied? Our grand organs, which have grown so big there is nobody big enough to blow the bellows, which must now be done by steam—how much "grander" must they become before the public will be satisfied with them? It is so with everything else in the present day which attempts to gratify the public craving; and, therefore, we believe the Council are right in deviating from that course, and adopting one which, from the beauty rather than the grandeur of their shows, will be a great source of attraction.

There are other advantages of a personal kind to exhibitors which make this new arrangement acceptable. One is, the great saving of time which will be effected. There will be only the number of days hitherto given to the meetings of committees to be provided for; and all those extras in the form of spring shows, special shows, and great shows, will be dispensed with.

January 19th.—Forced Flowers—Kitchen Apples and Pears.
February 16th.—Chinese Primroses—Dessert Apples and Pears.
March 2nd.—Hyacinths, Tulips—Apples, Pears, Early and Late Grapes.
March 16th.—Cyclamens—Apples and Pears.
April 6th.—Camelliss—Cucumbers and Forced Salads.
April 20th.—Pot Roses—Forced Vegetables.
May 4th.—Azaleas—Forced Fruits.
May 18th.—Pelargoniums—Forced Strawberries.
June 1st.—Rhododendrons—Forced Peaches and Nectarines.
June 15th.—Orchids—Strawberries.
July 6th.—Rose Show.—Pine Apples.
July 20th.—Picotees, Carnations, and Pinks—Cherries and Currants.

August 3rd.—Hollyhocks—Early Peaches, Plums, and Gooseberries.
August 17th.—Gladiolus—Peaches and Nectarines.
September 7th.—Dahlias—Plums and Figs.
September 21st.—China Asters—Early Apples and Pears.
October 5th.—Fuchsias—Grapes.
November 2nd.—Chrysanthemums—Pears.
December 7th.—Late Chrysanthemums—Dessert Apples and Pears.

POTATOES SUPERTUBERATING.

Many sorts of my round Potatoes, which are yet green in their foliage, are beginning to supertuberate. Kidneys, with their foliage green, do not show the unfortunate symptom so badly. I am taking up both sorts that give signs of it. I advise my readers to follow my example at once; if not, to allow their Potatoes to remain in the soil till the latest period possible, in order that the tubers may throw out as many young ones as possible; then, at taking-up, to sort away the older run-out tubers, and boil them down at once for the pigs with a little salt, and to keep the supertubers only for eating and for seed. I follow the plan of taking up those sorts which run-out the moment they show signs of doing so, if they have attained a fair size, and I crop the ground at once with Turnips or with winter and spring Cabbages. If the Potatoes are kept spread out in a dry dark place, they will considerably increase in the ripening process.—Upwards and Onwards.

THE SCOTCH LABURNUM.

"A Wanderer" sends the Editors a photograph of a grand old Scotch Laburnum, and would like to know why this valuable tree is so seldom to be met with about gentlemen's seats? If strength, symmetry, and grace, combined with beauty of foliage and gorgeousness of flowers is a recommendation, this tree is possessed of all; while in a commercial point of view the value of its timber is second to none. Amid the "rage" for new and rare plants, might you not have a word to say in behalf of this and other good old native plants?

[The photograph sent by our correspondent is conclusive evidence that the tree, which is growing in a garden at Coldstream, N.B., is all that he tells of it. The height of the tree is 36 feet; the extreme breadth of the top, 44 feet; the girth of trunk, 10 feet; and of the three primary limbs, 6 feet each.

The Scotch Laburnum is usually considered a variety of the Cytisus Laburnum, but we rather agree with those botanists who consider it a species, and have named it Cytisus alpinus. Dr. Hogg, in his "Vegetable Kingdom," says, "It is by far the finer one of the two; its leaves are large and glossy, and its flowers are of a darker yellow colour, and are produced in considerably longer racemes than the English variety—it also blooms later. Like much that is beautiful in this world, the Laburnum, too, conceals dangerous and deadly properties. The seeds are violently purgative, emetic, and decidedly poisonous, and should never be allowed within the reach of children or cattle. To prevent accidents, we would recommend that, whenever the tree has done blooming, and the pods formed, they should be immediately removed. The wood is much valued for cabinet-work, inlaying, and turnery-ware. It is hard, and so heavy that it will sink in water; of a fine colour, and receives an excellent polish. In France it is called ebony of the Alps. It is used for making handles to knives and surgeons' instruments; and in Scotland the bickers, luggies, or noggins, are made with alternate staves of Laburnum, Holly, or Spindle-tree, the dark-coloured being the Laburnum. It is also used for musical instruments, flutes, punch-bowl ladles, and several other fancy articles. Hares and rabbits are extremely fond of this tree, which they frequently injure very seriously by eating the bark, and the seeds are frequently sown in plantations, because they will touch no other tree so long as they can get a supply of Laburnum; and though the plants may be eaten to the ground every winter, they will spring again next season, and yield a regular supply of winter food for these animals."

Philip Miller is loud in its praise, and remarks—"In England there are few of these trees which have been suffered to stand long enough to arrive to any considerable size, for as they have been only considered as ornamental, the frequent alterations which most of the gardens in England have undergone, have occasioned their being rooted-out wherever they were growing; but in some of the old gardens in Scotland, where they have been permitted to stand, there are large trees of this kind, which are fit to cut down for the use of the timber. I have seen two old trees of it in gardens, which were more than 1 yard in girth at 6 feet from the ground, and these had been broken and abused, otherwise might have been much larger: they grow very fast and are extremely hardy, and, therefore, may be well worth propagating upon poor shallow soils, and in exposed situations. His Grace the Duke of Queensberry sowed a great quantity of the seeds of this tree upon the sides of the downs, at his seat near Amesbury, in Wiltshire, where the situation was very much exposed, and the soil so shallow that few trees would grow there; yet in this place the young trees were 12 feet high in four years' growth, and became a shelter to the other plantations, for which purpose they were designed; but the hares and rabbits being great enemies to these trees, by barking them in winter, they should be fenced from these animals. The wood is of great strength, and is much used for pegs, wedges, musical instruments, handles of knives, and a variety of furniture. Mr. Bontcher mentions that he had seen a large table and a dozen chairs made of it, which judges of elegant furniture thought the finest they had ever seen. Pliny says its wood is the hardest of any, next to ebony. Matthiolus speaks of its being used for making the best bows. It chars remarkably well; and if planted thick to run up tall, it would make durable hop-poles. For this purpose it might be planted in large clumps in parks, where it would be also very ornamental; the branches being generally loaded with long strings of flowers, hanging down from every part of them, in the month of May. Haller observes that the Latin name Laburnum was evidently formed from the alpine name L'Aubours. Formerly it was called in English Bean-Trefoil and Peascod tree, but the Latin name has prevailed over these. In German it is Bohnenbaum, and in French Cytise des Alpes, Aubours, and Faux Ebenier. It is a native of Switzerland, Austria, Provence, &c., and was cultivated here by Gerarde in 1596. Tradescant had both varieties in his garden."]

NOTES AND GLEANINGS.

Her Majesty's Commissioners for the Exhibition of 1851 have announced that the first of a series of Annual International Exhibitions of selected works of fine and industrial art will be opened in London at South Kensington, on Monday the 1st of May, 1871, and be closed on Saturday the 30th of September, 1871. The Exhibitions will take place in permanent buildings, about to be erected, adjoining the arcades of the Royal Horticultural Gardens. The productions of all nations will be admitted, subject to obtaining the certificate of competent judges that they are of sufficient excellence to be worthy of exhibition. They will include objects of the Fine Arts—paintings, sculpture, engravings, &c; scientific inventions and new discoveries of all kinds, manufactures; and in Horticulture, international exhibitions of new and rare plants, and of fruits, vegetables, flowers, and plants showing specialities of cultivation, will be held by the Royal Horticultural Society in conjunction with the above Exhibitions. Special rules for the horticultural exhibitions will be issued by the Royal Horticultural Society. The arrangement of the objects will be according to classes, and not nationalities as in former international exhibitions. One-third portion of the whole available space will be assigned absolutely to foreign exhibitors, who must obtain certificates for the admission of their objects from their respective Governments. Foreign countries will appoint their own judges. The remaining two-thirds of the space will be filled by objects produced either in the United Kingdom, or, if produced abroad, sent direct to the building for inspection and approval of judges selected for the British exhibitors. Objects not accepted for exhibition must be removed according to the notices given, but no objects exhibited can be removed until the close of the Exhibition. All exhibitors or their agents must deliver at the building, into the charge of the proper officers, the objects unpacked and ready for immediate exhibition, and free of all charges for carriage, &c. Her Majesty's Commissioners will find large glass cases, stands, and fittings, free of cost to the exhibitors, and, except in the case of machinery, carry out the arrangement of the objects by their own officers. Her Majesty's Commissioners will take the greatest possible care of all objects, but they will not hold themselves responsible for loss or damage of any kind. Prices may be attached to the objects, and exhibitors will be encouraged to state their prices. Agents will be appointed to attend to the interests of exhibitors. Every object must be accompanied

with a descriptive label, stating the special reason, whether of excellence, novelty, or cheapness, &c., why it is offered for exhibition. There will be no prizes, but a certificate of having obtained the distinction of admission to the Exhibition will be given to each exhibitor. A catalogue will be published in the English language, but every foreign country will be free to publish a catalogue in its own language if thought fit.

—— The preparations for the Hamburg International Exhibition are going on favourably. We have seen a plan of the ground, which is laid out artistically, and we have seen a circular announcing several extra prizes offered by various continental States. Exhibitors have promised to send from England, France, Italy, the Tyrol, Bavaria, and Wurtemburg. Those who require a complete list of the prizes and how they are to be contended for, had better apply to Mr. Eyles, Royal Horticultural Society's Garden, South Kensington.

—— An extensive cultivator and one whose knowledge of these matters we have great confidence in, informs us Gloede's Perpetual Pine Strawberry was this year six days earlier than Black Prince in the same bed. The runners were planted last August. Those planted in May are now in full fruit, and keep on blooming and bearing, showing every indication of continuing so for some time to come.

—— Messrs. Standish & Co., of Ascot, inform us that they have a plant of Lilium auratum, 13 feet high, coming into bloom with *one hundred* flowers upon it. Next week it will be at its best. The treatment required to obtain so great a result is never to disturb the bulbs, but to pot them on without breaking the ball. Never shake them out of the pot. The plant which Messrs. Standish have grown so successfully was originally in a 6-inch pot, and in two years it received two shifts only, the last being into a 16-inch pot. The best soil is leaf mould. In this the plant is found in its natural state in the woods and plantations of Japan.

—— Another veteran patron of horticulture has passed away. Charles B. Warner, Esq., died at Hoddesdon on the 27th of last month. Like his brother, he was especially fond of Orchid culture, and formerly, when Mr. Williams, of Holloway Nursery, was his gardener, exhibited successfully his favourite flowers. Of late years he has reduced his collection, and ceased from exhibiting. He was at one time a member of the Royal Horticultural Society's Council.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Finish planting *Broccoli* and all *Winter Greens* as soon as possible. Make the principal sowing of *Cabbage* for spring use, and plant out those sown last month for Coleworts. Water the late crops of *Celery* in dry weather, and continue to earth-up those in a forward state. Sow *Early Horn Carrot*, to remain in the ground for winter use. Sow Tripoli *Onions*. Any *Potatoes* in which symptoms of disease have appeared should be used first. Sow Brown Cos and hardy Cabbage *Lettuce* for spring use towards the end of the month; plant out those sown last month in a warm situation. These will probably be useful in November. Sow Prickly *Spinach* for winter and spring supply. Sow *Turnips* soon, and make a sowing of Early Dutch at the end of the month for spring.

FRUIT GARDEN.

Proceed with thinning and nailing-in young shoots of all wall trees, if any remain unfinished. Peach trees in particular should now be kept closely nailed-in, so that the wood may ripen; and in order that the fruit may have the advantage of light and air, remove a portion of the leaves where the fruit is too much shaded, and at the same time pull out any nails that are likely to come in contact with it. If the weather is dry before the crop ripens, give the border a good watering. Wash the trees occasionally, and trap earwigs. Perhaps the easiest way to free the trees of them is to place short pieces of bean-stalks or other hollow stems in different parts of the trees, and look them over every second day, blowing the contents into a bottle and replacing the tubes as before. As soon as the crop of Strawberries is gathered, go over the beds and cut away all runners; fork the soil about the plants to encourage them to make good growth before the season is too far advanced. Layer runners for new plantations. Use the garden-engine occasionally in warm weather to keep down red spider.

FLOWER GARDEN.

Now that the effect of the present arrangement of colours in beds can be fairly seen, there is an excellent opportunity for noticing any mistakes and determining upon the arrangement next season, and this should be done without delay. When it is decided what each bed is to be occupied with next season, a plan of the garden should be made, writing the names of the plants for the beds according to the arrangement decided upon. This will be of the greatest service in showing at any time what quantity of each kind of plant has to be propagated, and where some method of this sort is not adopted, it is not unusual to find at planting-out time that there is a scarcity of some plants, and too many of others, whereas those who have their plan to refer to, can tell at a glance the exact number of any plant required, and thereby avoid mistakes. Dahlias are now growing very rapidly, and will require to be examined frequently to keep the side branches securely tied-in, for when left untied they are easily broken off by a thunder shower. Hollyhocks must also be securely tied to their stakes. Continue to remove dead flowers from Roses, and give plenty of manure water to the autumn-blooming varieties. Plant out rooted cuttings of Pansies in nursery beds in a shady situation, keeping them well watered in dry weather. Finish budding Roses, and take care that Carnations and Picotees do not suffer from drought. Cross-breed flowers which have the desired properties. The operation is interesting, and is attended with little difficulty. Mark seedlings which promise well, and pull up those which are not up to the standard. Plant out Pink-pipings and put in a second crop of cuttings, these will often strike root and make better plants than the early ones. Look over Tulips, and divest the bulbs of their loose skins. Arrange the rows of the bed so as to be ready for planting. Discard all impure flowers, whether stained in the base or on the stamens, as whatever good qualities a flower may possess, these defects render it utterly worthless.

GREENHOUSE AND CONSERVATORY.

Now that there is a profusion of flowers out of doors, it will not be possible to maintain the interest of the conservatory, except by keeping it furnished with handsome specimens of showy plants in first-rate condition, and with proper convenience this is no difficult matter. Nothing, therefore, should be brought here that is not well bloomed, nor should a single plant be allowed to remain a day after it begins to grow shabby, for it is bad management to occupy glass structures with plants inferior to those which are plentiful in the open air. It is not desirable, however, to crowd the house with flowering plants; the aim should be to have a moderate number of handsome specimens effectively arranged, which will be far more interesting than a larger amount of floral display from plants of no individual merit. It is also advisable to allow the plants plenty of room on account of the permanent occupants of the beds or borders, which at this season should not be crowded, in order to secure well-ripened wood; for unless this be obtained they will not bloom finely. Use every means to keep insects in check, and let order and neatness be everywhere apparent. Azaleas, which do not seem inclined to start into growth freely, should, if possible, be placed in a moist situation, and receive every possible attention to induce them to make vigorous growth. Specimens in heat, which have their bloom-buds well formed, should be removed to a cool house or a sheltered shady situation out of doors; but they must be protected from drenching rains. Young plants of kinds which it is desirable to grow as large as possible, if they are setting for bloom, should be stopped regularly, and be encouraged to make another growth. See that the whole stock, particularly plants in heat, are free from black thrips, and spare no trouble to keep the plants clear of this pest. Camellias which have fairly formed their bloom buds, should be either placed out of doors, or in a cool dry house, keeping them rather dry at the root in order to prevent their making a second growth, which young vigorous plants are apt to do if kept in a close, moist situation after they have formed their flower-buds. Any of the plants which may require more pot room, should be repotted at once, so that the roots may take hold of the fresh soil before the blooming season; for they seldom bloom finely unless the pots are moderately filled with roots. If there are sickly or badly rooted specimens of other plants, they must be frequently examined for red spider, otherwise they may become a harbour for that pest, as it will soon spread to adjoining plants. See that young stock is not allowed to suffer from want of pot room, and attend carefully to watering, giving weak liquid manure to all plants in free growth that are likely to be benefited by it. Attend well to young stock, which will now be growing freely. Keep the shoots regulated as may be necessary to secure well-formed specimens, and use every care to

afford a moist atmosphere, sprinkling them overhead early on the afternoons of bright days, and reducing the amount of air.

STOVE.

Such of the inmates as are intended for the decoration of the conservatory in autumn and early in winter, should be carefully looked over, shifting any that are likely to want more pot room, so as to have the pots well filled with roots before the flowering season. Maintain a moist atmosphere, and ply the syringe vigorously upon any plant infested with the red spider. With respect to Orchids, encourage any backward plants with plenty of heat and moisture, while this can be safely done. See that plants on blocks and in baskets are properly supplied with moisture at the roots. Syringe lightly morning and evening, and sprinkle the floors, &c., frequently, so as to keep the atmosphere moist.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

At last, on the 28th ult., we had a refreshing rain, not enough to penetrate deeply, but enough to cool and refresh the whole of vegetation on which it fell, and no doubt it would have gone deeper if the surface soil had not been so warm and dry. It has had a magical effect on some rows of Peas and Cauliflower which had been previously watered with sewage, and but for the rain we would have followed the latter application with a little clean water to make all sure. It is rarely at this season, unless in a thunderstorm, that there is a sufficient downpour to sink very deeply into parched soil; and therefore it is a good method where water is at command, to water pretty well before some drizzling showers come, as then we receive the benefit of the cool shady atmosphere. Watering in bright sunshine is only defensible when we cannot do otherwise, and then the water will soon evaporate if means be not taken to prevent its rising by mulching or surface-stirring. The great advantage of the natural watering over artificial is, that it is generally accompanied with a clouded sky, and every part of a plant—stem and leaves—is refreshed as well as the roots.

We have seen no signs of fly or blight on vegetables, but we are sorry to learn that fields of Peas and Beans have had to be out and used for little better than manure, owing to having been crusted with the fly. The recent showers—and much more abundant in the valleys round here than with us, would do much to mitigate if not remove this evil.

All crops planted out have been much refreshed, and promise to grow freely, but we have planted out little more than what was recently referred to, as on removing early Peas, &c., the ground was more like ashes under a grate than common garden soil, and planting would be of little use without a copious watering. Unless more moisture comes we shall plant freely in temporary beds, as this will enable us to economise watering. We have turned the ground occupied by early Cauliflowers into wide Celery beds holding four rows across, and planted it at once, as the moist dung tended to make up for the dryness of the soil; but the dryness did surprise us, as the fine Cauliflowers had frequently been watered, and well mulched too. The dryness of such ground must have been owing to the amount of moisture evaporated from the large spreading leaves. In digging out the Celery trenches we found that the roots had gone deep in search of the necessary moisture.

The rains and the cooler atmosphere will be of great benefit to Turnips, especially young ones, which could scarcely hold their own. When the foliage begins to cover the ground well, and the land has been well cultivated, the plants are almost independent and able to look after themselves.

Our cottagers and allotment-holders should bear in mind, that as Potatoes, &c., are cleared off, it is a good time to sow *Turnips* to come in during the winter and spring The White Dutch, the Red Stone, the American Red-top, or Purple-top rather, the Flat White Turnip, and the Strap-leaved, are the best for this purpose. Those who grow and cook for themselves should not pass over the Yellow Maltese, but it is rarely that others than Whites are cooked in gentlemen's establishments; but what can be nicer than a crisp young Swede well boiled and mashed?

A few words more about *Potatoes*. From the earliest-raised, especially if the tubers were a little greened by exposure, it is not too late to plant in a warm border, so as to raise new Potatoes in November and December. Of course these will be waxy, but they may be kept over the winter bedded and mixed with earth. The Potatoes, especially all the earliest ones, have been good this season. We planted a few rather late, and wish we had not done so, as they will be rather in our way. These threw up a number of small shoots instead of one or two strong ones, and though we thinned the shoots considerably, the produce will be later than we wanted them to be. We have frequently intended to give a warning against the too frequent use of very early waxy Potatoes. Using a few is a very different affair from making such watery waxy Potatoes the chief part of a meal. We have not much medical authority, but considerable observation for the statement, that when cottagers from hard times, &c., have been driven very early to their Potato plots, sickness, low fever, and diarrhœa were the frequent consequences. We know that it is the starch and flour, and not the mere fibrine of the Potato that are chiefly nourishing, and these are not much secreted when the tuber is but young. Like most of the plants from which we procure our sago, arrowroot, &c., the Potato belongs to a poisonous family. We have had it on the authority of cattle-feeders that Potato tops did more harm than good. Water in which Potatoes were boiled did anything but good to pigs, to which it was given. There are few of us who at some time have not luxuriated in Irish stew, but there are few who have not known something of heartburn when the stew was made in the usual way—Potatoes, meat, &c., boiled in the same liquid. These effects are avoided when the Potatoes are nearly boiled in separate water before they become a constituent part of the stew. Our cottage reader may depend on this, that if he boil his Potatoes without breaking them—that is, if the water come away clear from them, such water will be injurious rather than otherwise to his pig if he keeps one.

We have several times alluded to the *earthing and non-earthing-up* of Potatoes, dwelling on the importance of the former operation, only when the tubers were so shallow as to be likely to be greened by exposure to the air. We believe greening is very good, so far as preserving tubers for planting is considered, and their future vigour of growth; but we well know that greened Potatoes were unpleasant for use, and always suspected they would be dangerous. We notice that M. Chatel, the great French agriculturist, says, that in this greened state the Potato contains a peculiar substance, called solanine, which if absorbed in large quantities is a dangerous poison, and which becomes more abundant as fermentation advances. When we see at the vegetable stores of Paris, and elsewhere, Potatoes grown more or less green under the action of the light, we ask how it is that the officers of public health do not forbid their sale. Of how many colics, diarrhœa, &c., must they have been the unsuspected causes? M. Chatel, therefore, strongly recommends that Potatoes designed for food should be kept constantly in the dark. We have not a doubt that if partaken of, greened Potatoes are not only unpleasant, but dangerous.

FRUIT GARDEN.

The dry weather has made our Strawberry season a short one. As we write the produce is becoming small. By layering and potting, we are preparing for future forcing. A good part of our trees have had their summer pinching and pruning, and would have all been attended to sooner, but for a press of other matters not entirely connected with the garden. Gave a good watering to trees in the orchard house now yielding some fruit. In the Peach house we have a tree of the Walburton Admirable, which has kept us in some measure in a succession of Peaches. In other fruit houses, air-giving in this hot weather, and damping the paths and floors, have been the principal work. Melons, on the whole, have been good; in the very hot days some were all the better of a piece of paper suspended over them. The rains have pretty well cleared the Currants that remained and had been troubled with honeydew.

ORNAMENTAL DEPARTMENT.

A very busy week in putting lawns and walks in first-rate order after the rain. The walks treated as lately described will now be firm and clean for months; and where we could not with propriety machine or mow the lawn we cleared off anything in the way of Plantains, Daisies, &c., with the Daisy-knife. The lawn is still greenish and considerably refreshed, and has not been brown yet; but, then, it does not have the rich tint of green we like to see, and there are many cases where machining or mowing, however slightly, would tend to make it brown.

The Scarlet Pelargoniums are now very good without any artificial watering, and Calceolarias are still in their glory. With occasional showers we may hope the flower beds will soon do without much attention beyond picking and trimming for the season, as the nights are now becoming longer, and we may

expect the dews to be more genial and heavy. In several mornings both before and after the showers, there was no dew perceptible in the morning, and then plants feel the effects of a scorching day. When plants show a little of the effects of a burning sun, it is not always good policy either to water or to shade, and there is little necessity for either if the plants hold up their heads firmly in the morning. We have been able to make a contrast between beds that could receive but little water, and others where by turning a tap it could be given most liberally, and was so given, but the balance in every case was not in favour of the abundant watering, though we should all like to have the opportunity of using it when we liked.

Much engaged in potting, changing, making preparations for wholesale cutting-making, but the details of some of these must be given hereafter.

Greenhouse plants turned out of doors should be in a shady place at first, and when moved into more sun should have the pots protected from the heat, as that is so apt to scorch the roots.—R. F.

COVENT GARDEN MARKET.—August 4.

Large supplies, the trade heavy for inferior descriptions, and but little alteration in prices. Potatoes are brought in plentifully both by rail and coastwise, good samples realising last week's quotations.

FRUIT.

	s.	d.	s.	d
Apples ..... ½ sieve	2	0	to 0	0
Apricots ..... doz.	2	0	3	0
Cherries..... lb.	0	6	1	0
Chestnuts.... bushel	0	0	0	0
Currants .... ½ sieve	4	0	4	6
Black ..... do.	5	0	6	0
Figs ..... doz.	6	0	10	0
Filberts ..... lb.	0	0	0	0
Cobs ..... lb.	1	0	1	6
Gooseberries .. quart	0	3	0	6
Grapes, Hothouse . lb.	2	0	6	0
Lemons 100	10	0	14	0
Melons ..... each	2	0	to 5	0
Nectarines ..... doz.	6	0	10	0
Oranges 100	10	0	14	0
Peaches ..... doz.	12	0	24	0
Pears (dessert) .. doz.	2	0	3	0
Pine Apples ..... lb.	3	0	6	0
Plums ..... ½ sieve	0	0	0	8
Quinces ..... doz.	0	0	0	0
Raspberries ..... lb.	0	6	0	9
Strawberries .... lb.	1	0	2	0
Walnuts .....bushel	10	0	16	0
do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0
Asparagus 100	3	0	6	0
Beans, Kidney ½ sieve	4	0	5	0
Beet, Red.....doz.	2	0	3	0
Broccoli .....bundle	0	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0
Cabbage ..... doz.	1	0	2	0
Capsicums 100	0	0	0	0
Carrots.....bunch	0	3	1	0
Cauliflower..... doz.	3	0	6	0
Celery..... bundle	1	6	2	0
Cucumbers .... each	0	6	1	6
Endive .....doz.	2	0	3	0
Fennel .....bunch	0	3	0	0
Garlic ..... lb.	0	3	0	0
Herbs ..... bunch	0	3	0	0
Horseradish ..bundle	3	0	5	0
Leeks ..... bunch	0	4	to 0	6
Lettuce ..... score	1	0	4	0
Mushrooms.... pottle	3	0	0	0
Mustd.& Cress,punnet	0	2	0	3
Onions..doz.bunches	6	0	0	0
Parsley ..... sieve	3	0	0	0
Parsnips ..... doz.	0	9	1	0
Peas ..... quart	0	6	1	6
Potatoes .....bushel	3	6	5	0
Kidney.... ditto	4	0	6	0
Radishes doz.bunches	1	0	0	0
Rhubarb.....bundle	0	4	0	0
Shallots ..... lb.	0	6	1	0
Spinach .....bushel	2	0	3	0
Tomatoes ..... doz.	2	0	3	0
Turnips ..... bunch	0	8	1	0
Veget. Marrows..doz.	1	0	2	0

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Collection of Fruits (*X. Y.*).—Five in sixteen is rather over the proportion allowed of six in twenty. Why not ask the Secretary?

Bere Lily (*C.*).—We do not know any plant so named.

Grafting Roses (*S. T. V.*).—"I do not advise root-grafting, or grafting Roses on the Manetti stock out of doors. If your buds have failed, water the stock copiously, scratch away the earth, and bud again as low as you can do on the main stem. Manetti stocks can be budded as late as September, even as late as the bark on the stocks will run.—W. F. Radclyffe."

Wheat Blighted (*F. Manning*).—It is most severely mildewed. We should think it has been laid, and long in contact with the soil. The ears are totally barren.

Grapes Diseased (*Nottinghamensis*).—They are severely affected with the ulceration called by gardeners "the spot." It probably arises from the roots not supplying a sufficiency of sap to sustain the rapid growth. Remove the soil down to the first tier of roots, and replace it with some fresh compost—about equal parts of light loam and cow dung. Water copiously once a-week with weak tepid manure water. Thin out all diseased Grapes, and admit air very freely. (*J. F.*).—Your Grapes are affected both with the spot and rust. Treat the Vines as we have above recommended.

Grapes for Cool Vinery (*C. R. C. D.*).—Early Saumur Frontignan and Meurthe Frontignan have the Muscat flavour. Black Champion, Black Hamburgh, Early White Malvasia, and Royal Muscadine.

Specks on the Footstalks of Grapes (*A. Q.*).—We do not think the white specks on the footstalks are mildew. They will presently become brown as the Grapes advance to maturity. If mildew should appear, dust the parts with flowers of sulphur. You should have sent us a specimen.

Grapes not Stoning (*A. S. A.*).—It is owing to imperfect fertilisation. The atmosphere has been kept too dry when the Vines were in flower. A moist atmosphere should have been maintained by frequently sprinkling the paths, &c., when the Vines were in flower. We do not advise budding a Muscat on the Black Hamburgh, but you may inarch it now, or early next spring graft the Black Hamburgh with the Muscat. We do not think that will enable you to perfect the Muscats in a greenhouse. Why not plant Foster's White Seedling or Buckland Sweetwater? Either is better than the Royal Muscadine, and more suitable for a greenhouse than the Muscats.

Mealy Bug on Grapes (*A Coutlon*).—As the insect has attacked the bunches, your only plan will be to tie the shoulders out, so as to make the bunches as loose and open as possible, and then you may with a small brush remove the insects. It is not only the bug, but the secretion—honeydew, that you will have to clear away, and that may be partly effected with water at a temperature of 120°, applying it with a syringe. To rid yourself of the pest without destroying the bloom, and injuring the fruit to some extent, is out of the question. When the leaves have fallen you may then give everything a thorough cleaning, and had this been done before the Vines were started, and had the plants on the back wall been kept clear of the bug, the present state of the Grapes might have been considerably, if not completely prevented.

Viola cornuta and Arabis Sowing (*Cambria*).—To obtain plants for spring bloom, the seed should be sown in pans early in the preceding year, and placed in a cold frame, where they should remain until the seedlings are well up. Then admit air freely; and when large enough to handle, prick them out in the open ground in good rich light soil, transplanting in autumn to where they are to bloom. The seed should be sown in April or May. The seed of Viola cornuta Purple Queen, and V. luteu, may now be sown, placed in a frame or under a hand-light, and when large enough to handle, the plants may be pricked off in a sheltered situation. They will bloom next season, but not sufficiently early for spring gardening.

American Blight on Apple Trees (*A Subscriber from the Commencement*).—The most effectual mode of freeing the trees is to wash them with water by means of a powerful syringe or engine. The insects will be washed on to the ground, and though incapable of further injury, it is well to remove them with a hoe, hoeing and raking the ground as far as the branches extend. If the roots are attacked, all you can do is to remove the old soil to the extent of 6 or 8 inches, and for 2 or 3 feet from the stem, giving the roots a good washing, and replacing with fresh soil. The soil removed should be burned or taken a considerable distance from the trees. In autumn, after the leaves fall, the trees may be washed with paraffin oil, applying it with a brush to the parts affected.

Sulphur Dissolving (*H. F. H.*).—Probably the receipt you allude to is this:—1 lb. flowers of sulphur, and 1 lb. fresh slaked lime. Place in an iron or glazed earthenware pot containing five pints of water, boil ten minutes, keeping stirred all the time. Allow the whole to settle, and about four pints of the liquid will be available for bottling. One pint of the bottled liquid to twelve gallons of water should be applied with a syringe to plants or fruit trees infested with mildew, making every part thoroughly wet. It may be applied without injury to the foliage and fruit of Vines. A more useful insecticide, but not to be applied to Vines, Melons, nor Cucumbers when in leaf, being one of the best for washing trees in winter as a preventive, and for destroying insects at any time, is as follows:—7 lbs. of sulphur vivum and 7 lbs. of quicklime; boil together for fifteen minutes in three gallons of water, then add 2 lbs. of soft soap and 1 lb. of tobacco, and boil slowly for thirty minutes. Strain and bottle the clear liquid. Apply the liquid with a brush, and undiluted, as a winter dressing to trees at rest. Use one pint to three gallons of wash for fruit trees in leaf, except those previously mentioned, and all plants with soft hairy leaves, whilst those with smooth leaves as the Peach, Gardenia, &c., it will not injure. It is an effective remedy for red spider, thrips, aphis, and mildew. We have used it upwards of twenty years, and it was employed for more than half a century by the gardener who gave us the receipt.

Grafting Lime Trees (*Hibernicus*).—By grafting the upright on the weeping you could not cause the latter to become weeping, and the converse would hold good. We cannot say what the effect would be as regards the plant's constitution. The weeping kind might be invigorated, but that is a matter for experiment.

Pampas Grass (*T. D.*).—Spergula pilifera would answer to place round the Pampas Grass, but as you have a bed 9 feet wide and but one plant in the centre, we would plant four more in the bed, and have a group of the Pampas Grass, especially as it is in the centre of the flower garden. We would do that or allow the Grass to grow to within a foot or so of the stems all round; or you might have an edging to the bed of Festuca glauca, 1 foot from the edge, and an inner band of Dactylis glomerata variegata or elegantissima. Any of these arrangements would be more effective than the Spergula pilifera. Your plant, we should think, will flower finely this autumn.

Japanese Medlar (*C. P.*).—It is Eriobotrya japonica.

Tobacco Water (*A Young Beginner*).—Pour half a gallon of boiling water upon 1 oz. of tobacco. Let it cool, and after straining it may be used for syringing.

Name of Fruits (*A. B.*).—The Morello Cherry.

Names of Plants.—(*Constant Reader*).—We cannot name florists' varieties. They are far too numerous and nearly alike, especially Pelargoniums, Geraniums as you call them.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 3rd.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 28	29.928	29.878	64	42	61	61	N	.60	Rain; heavy showers; clear and fine at night.
Thurs. 29	29.914	29.881	75	59	61	63	S.	.00	Foggy; cloudy, but fine; densely clouded.
Fri.... 30	30.010	29.971	75	63	64	61	S.W.	.00	Densely overcast; fine; clear and fine.
Sat.... 31	29.990	29.862	74	47	63	61	S.	.02	Overcast; fine, slightly overcast; densely overcast.
Sun... 1	29.813	29.717	75	46	63	61	S.W.	.02	Fine but cloudy; heavy clouds; showery at night.
Mon... 2	29.873	29.728	71	39	64	61	W.	.08	Cloudy; fine; clear and fine, starlight.
Tues.. 3	29.886	29.755	74	51	60	60	S.	.54	Rain; heavy showers; densely overcast.
Mean..	29.917	29.827	72.57	49.57	62.29	61.14	...	1.06	

POULTRY, BEE, AND PIGEON CHRONICLE.

THE POULTERS' COMPANY.

(*Concluded from page* 90.)

I did not shout as Pickle's friend did, but when I put the first mouthful of Swan into my mouth I was disposed to cry out, "This bird has eaten nothing but sprats." It had an undeniable flavour of fish beyond any wild fowl I ever tasted. I believe the Corporation of Norwich is bound by charter to consume a certain quantity of corn in fattening Swans, and then they have to be got rid of. If it were a necessity that they should be properly cooked, then the gift of a Swan in England would be like that of a white elephant in India. I believe it should be picked quite clean, and trussed with the feet on. It should be stuffed full of rumpsteak cut in dice, and of fresh butter rolled in small balls, sundry herbs, and a suspicion of garlic or shallot. The entire animal should be wrapped in thin slices of fat bacon, and basted with butter during the hours of roasting. Sauce of spice, port wine, and jelly. Then friends must be asked to partake, and something must be provided in case the Swan should be bad—a costly present. Small marvel that the recipient of one gave it away, and received it again within ten days. There is only one comfort, the victims are generally the Prime Minister, the Commander-in-Chief, or the Foreign Secretary. Some of us are, therefore, likely to be exempt from the gift of a fattened Swan.

The description given of the poulters' arms is incomplete. The crest is a Pelican tearing her breast in order to feed her brood, that are ravenously swallowing her blood; the supporters are also Pelicans; and the motto is "Remember Your Oath."

The bequests of the Company date back to the early part of the seventeenth century. It is among those which supplied King James with money, and thereby gained an interest in the Irish estate. Bishops, knights, and aldermen have figured among their liverymen, even of recent date. I do not know whether it be the same man, but the Campbells are descended from a Norman Campo Bello who married a Scotch heiress. There are still tenures by which estates are held, which consist in the necessity of keeping a large dovecote, stocked with a certain number of Pigeons. One I have been told was left by John of Gaunt on such condition.

Poultry plays a far more important part in feeding a people than is imagined by those who do not study the subject, and it becomes annually larger.

The Company has suffered, like others of the city of London, from the alterstion in the times. Its ranks and funds were both recruited by the members and fees contributed by apprentices. The youth was impressed by the oath-taking before master, wardens, clerk, and court of assistants. He learned the "art and mystery" in exchange for his seven years' services, and at the expiration of the term became free of the Company by "servitude." This tied him to it, and he generally persevered till he became liveryman, assistant, and eventually master. Many old members of the Company were benefactors, some to a large amount, at their decease. It is many years since there was an apprentice bound to the Company, and there appears no probability there will be. I believe the Company is flourishing, and it has the reputation of being one of the best managed in the city. It has no hall. As the lawyer's lady, in "Jack Hinton," said that "but for Oliver Cromwell and the Danes at the battle of the Boyne, she might have been a queen in her own right," even so, we are told there are poulters who believe that but for the fire of London, Leadenhall would still belong to the Company.—B.

HASLINGDEN POULTRY SHOW.

This was a success, the arrangements being far more complete than at the generality of shows, and the only improvement the most critical observer could suggest, would be to place the pens a little higher from the ground for general inspection. The Buff *Cochin* chickens were very meritorious, and mostly composed of very early-hatched chickens. The *Spanish* classes were even more praiseworthy, although many of the adults of this breed were fast falling into moult. The *Hamburghs* were remarkably good, and the Game *Bantams* were of excellent quality, and in great numbers. Cochin Bantams were the recipients of the first prize for any variety of Bantams, and Blacks second.

The class for any variety of *Ducks* was a great feature of the Show. During the forepart of the day (July 29th), the weather was most favourable, but towards the closing time it rained heavily.

The *Rabbits* appeared in goodly numbers considering the small inducement offered, there being only one class. This was a great mistake, when within a dozen miles of the show ground some of the best Rabbits in the country are kept, and perhaps more prizes are received within that area than any other of equal extent. One rabbitry we know can generally number from one to two hundred, consisting of every known variety, and in each variety many prize-winners; so that the Haslingden Committee need not fear Rabbits not being forthcoming, if they will wisely invite their exhibition by proper and numerous classes. Ten entries appeared in the catalogue, but only nine pairs presented themselves—viz., Lop-eared, Himalayan, Angora, and some not perhaps considered of the pure "fancy" variety.

We rather think the Judge leaned to the old favourites the "Lops," as is generally the case when an unfortunate mixture of three or four varieties is found from want of proper classes, and so the more recent and less known, but equally beautiful, varieties appear to possess less merit in his eyes. Mr. Beldon, of Bingley, Yorkshire, was the Judge, and made no doubt as much as possible out of the mixed material at his disposal, but it is to be hoped the Committee will feel justified for the future in offering at least four classes (five are better), and they need not be afraid of the result. The specimens sent were well cared for, but the pens were rather too near the ground for the Rabbits to be seen to advantage.

Cochin-China (Buff or Cinnamon).—1, W. A. Taylor, Manchester (Buff) 2, C. W. Brierley, Middleton. *hc*, W. A. Taylor; J. Sichel; J. Robinson, Garstang. *Chickens.*—1 and Cup, T. Sharples, Forest Bank, near Rawtenstall. 2 and *hc*, C. Sidgwick. *c*, W. A. Taylor; A. Bamford, Tonge, near Middleton (Buff).

Cochin-China (Any other variety).—1, T. Stretch (Partridge). 2, C. W. Brierley. *Chickens.*—1, T. Stretch (Partridge). 2, C. Sidgwick (Partridge).

Brahmas (Dark).—*Chickens.*—1, T. Sharples. 2, T. Pomfret, Hoghton Lane, Preston. *hc*, C. Layland.

Brahmas (Light).—*Chickens.*—1, H. M. Maynard, Holmewood, Ryde, Isle of Wight. 2, H. Dowsett, Pleshey. *hc*, H. Lacy, Hebden Bridge.

Dorkings.—1, J. White, Warlaby. 2, J. Stott, Healey, Rochdale. *Chickens.*—1, J. Robinson, Garstang. 2, J. White, Warlaby. *hc*, H. Yardley, Birmingham; J. Stott, Healey. *c*, C. Chaloner, Whitwell, near Chesterfield.

Spanish (Black).—1 and Cup, N. Cook, Chowbent. 2, H. Beldon, Goitstock, Bingley. *hc*, H. Beldon; Birch & Boulter, Sheffield. *c*, F. & C. Haworth, Newfield, Haslingden. *Chickens.*—1, F. & C. Haworth, Haslingden. 2, W. & F. Pickard, Thorner, near Leeds. *hc*, T. & E. Comber, Warrington; Birch & Boulter, Sheffield.

Game.—1, C. W. Brierley. 2, H. M. Julian. *Chickens.*—1, J. Carlisle, Earby, near Skipton (Brown Red). 2, C. Chaloner. *hc*, E. Mann, Stand.

Game Cock.—1 and Cup, C. W. Brierley. 2, C. Chaloner. *hc*, W. Lomax, Stonecliough; H. M. Julian, Hull.

Game Cock (Within six miles of Haslingden).—1, N. Storey, Haslingden. 2, F. & C. Haworth, Newfield. *hc*, A. Sutherland.

Hamburghs (Golden-pencilled).—1, S. Smith, Northowram, Halifax. 2, H. Pickles, Earby, near Skipton. *c*, H. Beldon. *Chickens.*—1, W. Parr, Patricroft. 2, S. Smith. *hc*, T. Wrigley, jun., Tonge Hall, near Middleton; W. J. Harker, Allerton, near Bradford.

Hamburghs (Silver-pencilled).—1 and *hc*, H. Beldon. 2, Duke of Sutherland, Trentham. *Chickens.*—1, J. Walker, Knaresborough. 2, H. Beldon. *hc*, H. Pickles.

Hamburghs (Golden-spangled).—1, Duke of Sutherland. 2, H. Pickles,

hc, S. & R. Ashton; N. Marlor, Denton. *Chickens.*—1, T. Walker, jun., Denton, near Manchester. 2 and *hc*, E. Brierly, Heywood. *c*, J. Walker, Knaresborough.

HAMBURGHS (Silver-spangled).—1, Cup, and *hc*, H. Beldon, 2, W. A. Taylor. *c*, J. Fielding, Newchurch; H. Pickles, Earby. *Chickens.*—1, J. Fielding. 2, Ashton & Booth, Mottram. *hc*, H. Beldon, Bingley.

HAMBURGHS (Black).—1, C. Sidgwick. 2, D. Lord, Stacksteads. *hc*, Mason & Walker, Denton. *Chickens.*—1, A. E. Hanson, Castleton. 2, N. Rigg, Rochdale.

ANY OTHER VARIETY.—1, H. Beldon (Polands). 2, W. Hawey, Sheffield (Crevo-Cœurs). *hc*, W. Gamon, Chester (Polands); W. Hawey (Polands).

SELLING CLASS (Any variety).—1, F. & C. Haworth, Haslingden. 2, C. W. Brierley. *hc*, F. Shaw, Plas Wilmot (Black Red Game). *c*, W. A. Taylor, Manchester.

GAME BANTAMS.—*Cock.*—1, J. R. Robinson, Sunderland. 2, J. Crosland, jun., Wakefield. *hc*, T. Barker, Hill End, near Burnley. *c*, W. F. Entwisle, Leeds; J. W. Morris, Rochdale; J. Barlow, Musbury.

GAME BANTAMS.—1, W. F. Entwisle. 2, C. W. Brierley. *c*, J. W. Morris.

BANTAMS (Any variety).—1, H. Beldon. 2, W. Harvey, Sheffield. *Chickens.*—1 and *hc*, W. F. Entwisle. 2, J. Crosland, jun (Brown Red). *c*, T. Barker (Black Red).

TURKEYS.—1, E. Leech, Rochdale.

GEESE.—1, T. Houlker, Blackburn (Grey). 2, E. Leech.

DUCKS (Aylesbury).—1 and 2, Mrs. M. Seamons. *hc*, E. Leech.

DUCKS (Rouen).—1, T. Houlker. 2, E. Leech.

DUCKS (Any other variety).—1 and 2, C. W. Brierley. *hc*, T. C. Harrison, Hull; J. Sichel, Tinperley (Carolina); S. & R. Ashton, Mottram; A. & J. Trickett, Waterfoot, near Manchester.

PIGEONS.

CARRIERS.—1, J. Hawley, Bingley. 2, E. Horner, Harewood, Leeds. *hc*, H. Yardley, Birmingham; J. Chadwick, Bolton.

TUMBLERS.—1, J. Fielding, jun. 2 and *hc*, J. Hawley.

BARBS.—1 and 2, Capt. Heaton, Eccles. *hc*, E. Horner; J. Fielding, jun. *c*, J. Hawley.

OWLS.—1 and 2, J. Fielding, jun. *hc*, J. Hawley.

CROPPERS.—1, W. Harvey, Sheffield. 2, E. Horner. *hc*, W. Gamon; E. Horner.

FANTAILS.—1, 2, and Cup for best pen of any breed, J. Hawley. *hc*, E. Horner; J. Chadwick. *c*, H. Yardley; H. M. Maynard, Holmewood.

TURBITS.—1, E. Horner. 2, H. Yardley. *hc*, E. Horner; J. Fielding.

DRAGOONS.—1, J. Hawley. 2, W. Moore, Burnley (Blue). *hc*, T. Charnley, Blackburn (Blue). *c*, J. Lord, Rochdale; W. Harvey, Sheffield.

TRUMPETERS.—1, E. Horner. 2, W. Gamon, Chester, *hc*, J. Hawley; E. Horner. *c*, J. Hawley.

JACOBINS.—1, E. Horner. 2, J. Hawley. *hc*, T. Newell, Ashton-under-Lyne.

ANTWERPS.—1, J. Crosland, jun. 2, J. Hawley.

ANY OTHER VARIETY.—1, T. Newell (German Fairies). 2, W. Harvey, Sheffield. *hc*, H. Yardley; E. Horner. *c*, H. Yardley.

ANY OTHER VARIETY (Within three miles of Haslingden).—1, J. Holt, Haslingden (Black Carriers). 2, J. Hamilton, Haslingden (Black Barbs). *hc*, J. Hamilton (Blue English Owls); W. Kemp, Haslingden (Blue Owls). *c*, W. H. Ashworth, Tanpits, Helmshore (Blue Carriers).

RABBITS.—1, A. Crossley, Broomfield, Halifax (Lop-eared). 2, A. H. Easten, West Parade House, Hull (Himalayan). *hc*, J. Boyle, jun., Victoria Street, Blackburn (Lop-eared).

Messrs. Hewitt and Teebay were the Judges of the poultry; and Mr. Beldon awarded the prizes for Pigeons and Rabbits.

CLECKHEATON POULTRY SHOW.

THE first Poultry Show in connection with the Cleckheaton Agricultural Exhibition was held on the 24th ult. A large number of visitors attended, and for a first attempt it was a great success. All the arrangements were very good.

In Black and Brown Red *Game* there were twelve entries, and most of them included excellent birds. A cup was awarded to the best pen of Game—a very good pen of Black Reds. The second and third prizes went to Brown Reds, also good birds. The Duckwing Game were, as a class, very good. *Dorkings* were only of medium quality, being very much out of condition. The same may be said of the *Cochins*. The *Spanish* were good, but only four pens competed. In *Brahmas* there were seven pens, Mr. Leach, of Rochdale, being first with a good pen. The *Hamburghs* were not so good as we expected to see, being in the centre of the Hamburgh district.

Many of the *Ducks* and *Geese* were good and large in size.

The *Pigeons*, as a whole, were a nice show, there being many first-class birds amongst them.

GAME (Black Red or Brown Red).—1, W. Fell, Adwalton. 2, E. Aykroyd, Bradford. 3, H. Hatton, Cleckheaton. *hc*, G. Noble, Staincliffe; H. Jennings, Allerton, Bradford. *c*, W. Bentley, Scholes.

GAME (Any age or variety).—1, H. Jowett, Idle, Leeds. 2, W. Fell. *hc*, H. Jennings; H. Jowett. *c*, G. Noble.

DORKINGS.—1, 2, and *hc*, W. H. King, Rochdale. *c*, J. T. Beaumont, Huddersfield; Rev. G. Hustler, York.

COCHIN-CHINA (Any variety).—1, H. W. Illingworth, Idle. 2, W. & F. Pickard, Thorner. *hc* and *c*, J. W. Wilkinson, Bradford.

SPANISH (Black).—1, J. Gornall, Little Horton. 2, E. Brown, Sheffield. *hc*, W. & F. Pickard.

BRAHMA POOTRA.—1, E. Leech, Rochdale. 2, M. Scott, Idle. *hc*, L. Woodhouse, Bradford.

HAMBURGHS (Golden-pencilled).—1, S. Smitt, Northowram. 2, W. Clayton, Morton Banks, Keighley.

HAMBURGHS (Golden-spangled).—1, J. Rollieson, Lindley, Otley. 2, J. Murgatroyd, Idle. *c*, S. & W. Clapham, Keighley; S. Smitt, Northowram.

PHEASANTS (Black).—1, H. W. Illingworth. 2, E. Baxter, Idle.

FRENCH (Any variety).—2, R. Naylor, Rawfolds, Cleckheaton.

GAME BANTAMS (Black or Red).—1, Extra 1, and 2, G. Noble. *hc*, E. Brown, Sheffield; S. Schofield, Heckmondwike; C. Clegg, Staincliffe.

GAME BANTAMS (Any variety).—1, W. Greaves, Bradford. 2, A. Wood.

BANTAMS (Any variety except Game).—1, W. Brotherton, Idle. 2, S. and W. Clapham, Keighley. *hc*, W. H. Robinson, Keighley.

TURKEYS.—1, E. Leach. 2, Mrs. Spence, Weston, Otley.

GEESE (Any variety).—1, E. Leech. 2, J. White, Whitley, Wakefield. 3, W. H. King, Rochdale.

DUCKS (Aylesbury).—1, E. Leech.

DUCKS (Rouen).—1, E. Leech. 2, J. Crossland, Huddersfield.

DUCKS (Any other variety).—1 and Extra, W. Greaves, Bradford.

RABBITS.—*Lop-eared.*—1, T. Mitchell, Bradford. 2, W. Clark, Gomersal. *Any other Variety.*—Prize, Mrs. Spence, Weston, Otley (White Russian).

PIGEONS.

TUMBLERS.—1, H. Yardley, Birmingham. 2, J. Hawley, Bingley.

CARRIERS.—1 and Extra, J. Hawley. 2, H. Yardley.

BARBS.—1, J. Hawley. 2, H. W. Illingworth.

OWLS.—1, J. Hawley. 2, T. Eggleston, Halifax.

POUTERS OR CROPPERS.—1, J. Crossland, Huddersfield.

FANTAILS.—1 and Extra, J. Hawley. 2, J. Crossland.

DRAGOONS.—1, J. Hawley. 2, H. Yardley.

TRUMPETERS.—1, J. Hawley. 2, J. Crossland.

JACOBINS.—1 and Extra, J. Hawley. 2, J. Crossland. *hc*, T. Eggleston.

NUNS.—1, J. Crossland. 2, W. Lund, Shipley, Bradford.

ANTWERPS.—1, W. Lund. 2, S. Schofield, Heckmondwike.

ANY OTHER VARIETY NOT BEFORE MENTIONED.—1, H. Yardley. 2, J. Hawley.

Mr. James Dixon, Bradford; and Mr. Thompson, Southowram, acted as Judges.

BRIDLINGTON POULTRY SHOW.

(From a Correspondent.)

THIS annual Exhibition, in connection with the Agricultural Association, took place at Bridlington, on July 28th. Several pens of first-class birds were exhibited.

COCHIN-CHINA.—1 and 2, Miss Creyke, Marton Hall. *Cock.*—1, G. Holmes, Driffield. 2, Miss Creyke.

DORKINGS.—1, G. Holmes. 2, D. White, Driffield. *Cock.*—1, O. A. Young, Driffield. 2, D. White.

SPANISH.—1 and 2, G. Holmes. *Cock.*—1, J. Stabler, Driffield. 2, G. Holmes.

GAME.—1, J. Laycup, Driffield. 2, J. Woodhouse, Flamborough. *Cock.*—1, W. Watson, Snainton. 2, J. Laycup.

POLANDS.—1, Mrs. Procter, Hull. 2, G. A. Young.

HAMBURGHS (Golden-spangled).—1 and 2, G. Holmes.

HAMBURGHS (Silver-spangled).—1 and 2, G. Holmes.

HAMBURGHS (Golden-pencilled).—1 and 2, G. Holmes.

HAMBURGHS (Silver-pencilled).—1, G. Holmes. 2, Miss Creyke.

BANTAMS (Any variety).—1, G. Holmes. 2, Miss Creyke. *Cock.*—1, J. Duggleby, Driffield. 2, Master C. Richardson, Bridlington.

DISTINCT VARIETY.—*Chickens.*—1, D. White. 2, G. Holmes.

GEESE.—1, J. Nesfield, Buckton. 2, G. A. Young.

GEESE.—1 and 2, J. Nesfield, Buckton.

TURKEYS.—1, Miss J. Edwards, Ganton. *Poults.*—1, Miss J. Edwards. 2, Mrs. Chapman, Springdale.

DUCKS (Aylesbury).—1, O. A. Young. 2, J. Smith, Marton Lodge. *Ducklings.*—1, O. A. Young. 2, J. Smith.

DUCKS (Any variety).—1, G. Holmes. 2, O. A. Young. *Ducklings.*—1 and 2, R. Moody, Bridlington.

GUINEA FOWLS.—1, H. Merkin, Driffield.

PIGEONS.—*Croppers.*—1, W. Dobson, Bridlington. *Fantails.*—1, Miss Creyke. 2, T. Stabler, Driffield. *Carriers.*—1, W. Brand, Driffield. *Jacobins.*—1, R. Flemming, Springbank, Hull. *Any New or Distinct Variety.*—1, J. Duggleby. 2, O. A. Young.

RABBITS.—*Any Breed.*—1, W. Donkin. *Fancy.*—1, W. Donkin.

JUDGE.—J. O. Jolly, Esq., Green Hammerton, York.

BUDE HAVEN POULTRY SHOW.

THE following are the awards made at this Show, held July 30th:—

DORKINGS (Coloured).—1 and 2, Mrs. Thynne. *Cock.*—1, Mrs. Thynne. 2, A. Trewin. *Chickens.*—1, Mrs. Thynne.

DORKINGS (White).—1, T. Pickard.

SPANISH.—1, J. M. Braund. 2, W. E. Wackley. 3, R. Hoskin. *Chickens.*—1, W. Leach. 2, S. T. Pickard.

MINORCAS.—1 and 2, F. Gloyne.

GAME.—1, S. T. Pickard. 2, R. Francis. 3, W. H. B. Coham. *Chickens.*—1 and 2, N. Treleven.

COCHIN-CHINA.—1 and 2, W. L. Trewin.

BRAHMAS.—1, Rev. W. James. 2, Mrs. Thynne.

MALAYS.—1 and 2, H. Darch.

CORNISH.—1, H. Francis. 2, Mrs. Thynne.

HAMBURGHS (Golden-pencilled).—1, F. Barrett. 2, J. F. Delmar.

HAMBURGHS (Golden-spangled).—1, J. F. Delmar. 2, J. Woodley.

HAMBURGHS (Silver-pencilled).—1, J. Walter. 2, J. Penwarden.

HAMBURGHS (Silver-spangled).—1 and 2, W. M. Lancester. *Chickens.*—1, W. M. Lancester. 2, J. Banbury.

POLANDS (Golden-spangled).—1 and 2, H. P. B. Sly.

POLANDS (Black, White Topknots).—1 and 2, W. L. Trewin.

BARNDOOR.—1, D. Barrable. 2, J. Heal. 3, W. Sleeman. 4, H. Francis. 5, W. J. Lyle.

EXTRA.—1, F. Barrett. 2, Rev. W. Jones.

ANY BREED EXCEPT DORKINGS.—*Cock.*—1, W. L. Trewin. 2, H. Darch. 3, W. Bromell.

BANTAMS (Gold-laced).—1, R. Harris. 2, Withheld.

BANTAMS (Black).—1, J. Heal. 2, P. Heal.

BANTAMS (White).—1, H. Francis. 2, L. Fry.

GUINEA FOWLS.—1, W. M. Lancester. 2, W. H. B. Coham.

DUCKS (Aylesbury).—1 and 2, J. Heard. 3, W. Bines. *Ducklings.*—1, R. Hoskin. 2, J. Bines.

DUCKS (Common).—1, T. Pickard. 2, J. Heal. 3, — Cotton. 4, Miss Burton. *Ducklings.*—1, Miss Knight. 2, J. Medland. 3, Miss Burton.

DUCKS (Rouen).—1, Miss Wright. *Ducklings.*—1, W. Barrable. 2, E. Hockin.

GEESE.—1, 2, and 3, J. Heal.

TURKEYS.—1, J. Galsworthy. 2, G. Risdon. 3, Miss Burton.

PIGEONS.—1, D. Francis. 2, T. Modland. 3, D. Francis. *Barbs.*—Prize, J. M. Braund. *Pouters.*—Prize, J. M. Braund. *Fantails.*—Prize, Miss Radcliffe. *Jacobins.*—Prize, J. M. Braund. *Trumpeters.*—Prize, J. M. Braund. *Turbits.*—Prize, J. M. Braund.

RABBITS.—*Long-eared.*—1. Master H. Sanders. 2, Master J. Pickard. *Common.*—1, H. Pickard. 2, M. Olde.

JUDGES.—Mr. H. Leeworthy, Barnstaple, and Mr. Oatway, Bideford

LINCOLN POULTRY SHOW.

THE first Exhibition of the Lincolnshire Agricultural Society took place on the 29th, 30th, and 31st ult.; and though the entries of Poultry and Pigeons did not much exceed a hundred, some good birds were shown. The following is the prize list:—

DORKINGS (Any colour).—1, J. Hornsby, Grantham. 2, T. Marris, Ulceby. 3, W. Hutton, Gainsborough.

GAME (Any variety).—1 and Cup, B. Jarvis, Mansfield. 2, Rev. T. O'Grady, Ashbourne, Derbyshire. 3, E. Hubbard, Nether Langwith, Mansfield. *hc*, F. Watson, Kelvedon, Essex.

SPANISH.—1, T. C. & E. Newbitt, Epworth. 2, T. Marris. 3, G. Jackson, Newark.

BRAHMAS (Any colour).—1 and 2, C. Layland, Warrington.

COCHINS (Any variety).—1, J. N. Beasley, Pitsford Hall, Northampton (Buff). 2, J. Elgar, Osmanthorpe Hall, Newark (Buff). 3, C. Layland.

HAMBURGHS (Any variety).—1, J. F. Loversidge, Newark (Golden-spangled). 2, W. Ghest, Barlings, Lincoln (Silver-pencilled.

BANTAMS (Any variety).—1, J. W. Dudding, Howell, Sleaford. 2, T. Marris.

BANTAMS (Any other variety).—1, W. H. Tomlinson, Newark (Black). 2, J. Elgar (Black).

POLANDS.—1, T. C. & E. Newbitt.

FRENCH.—1 and 2, W. O. Quibell, Newark. 3, Col. Stuart Wortley.

ANY VARIETY.—*Cock.*—1, B. Jarvis. 2, W. O. Quibell (Brahma, Dark). 3, E. Hubbard.

GEESE (Any colour).—1, J. Elgar. 2, F. W. Brook, Branncewell, Sleaford. 3, F. Dawson, Sixhills, Market Rasen.

DUCKS (Aylesbury).—1, J. Hornsby, Grantham. 2 and 3, T. Fox, Lincoln.

DUCKS (Rouen).—1, W. H. Robson, North Reston, Louth. 2 and 3, J. W. Dudding.

DUCKS (Any other variety).—1, J. W. Dudding. 2, Hon. A. L. Melville, Brannston Hall, Lincoln (Decoy). 3, H. Freshney, jun., Grimoldby, Louth.

TURKEYS (Any variety).—1, J. N. Beasley. 2, J. B. Hides, Wisbeach Fen.

SELLING CLASS.—1, T. C. & E. Newbitt. 2, J. Hornsby (Aylesbury). 3, B. Jarvis (Game). *hc*, J. Hornsby; E. Hubbard. *c*, S. Spencer, Housham, Brigg.

PIGEONS.—1, W. Massey, Spalding (Carriers). 2, T. C. & E. Newbitt. *hc*, H. Snushall, Fleet Hargate, Wisbeach (Black Carriers, Turbits, and Hyacinths). *Extra.*—Extra, S. Sawyer, Lincoln (White Indian Fantails)

The Judges of Poultry and Pigeons were Mr. Thomas Chaloner, and Mr. W. B. Tegetmeier.

FULFORD POULTRY SHOW.

THE eighth Exhibition of this Society was held at Fulford, near York, on the 29th of July. The Show of this year has been better than any former show at Fulford, and the *Spanish*, *Dorkings*, *Game*, and *Hamburghs* would have been creditable to any show.

SPANISH.—1, W. Bearpark, Ainderby Steeple. 2, J. Cook, Bishop Wilton.

DORKINGS.—1, W. Bearpark. 2, Rev. G. Hustler, Stillingfleet.

COCHIN-CHINA.—1 and 2, Sheriff of York.

GAME (Any variety).—1, W. Bearpark. 2, J. Mollett, York. *hc*, G. Carter, Sand Hill, Bedale.

HAMBURGH (Spangled or Pencilled).—1, W. Bearpark. 2, Miss Sutton, Fulford.

HAMBURGHS (Silver-spangled or Pencilled).—1, W. Bearpark. 2, Sheriff of York.

ANY OTHER VARIETY.—1, C. Walker, Boroughbridge. 2, Miss Ward, Acomb Grange.

THREE CHICKENS (Any breed).—1, R. Swann, Acomb. 2, W. Bearpark.

BANTAMS (Any variety).—1, — Wheatley, Ilworth. 2, G. Hutchinson, Prospect House.

SELLING CLASS (Any variety).—1, G. Carter. 2, C. Triffitt, Cattal.

GEESE.—1, Rev. G. Hustler. 2, — Harrison, Acaster.

TURKEYS.—1, A. S Perfert, Fulford. 2, Rev. G. Hustler.

DUCKS (Any variety).—1, Rev. G. Hustler. 2, A. S. Perfert.

The Judge was Mr. A. Cattley, York.

EDINBURGH POULTRY SHOW.

The following awards were made at the Show of the Highland and Agricultural Society held at Edinburgh on the 28th, 29th, and 30th of July:—

DORKINGS (Siver-Grey).—1, D. Annan. 2, G. Lyon. *hc*, Sir J. D. Wauchope. *Chickens.*—1, Lady Montgomery. 2, A. Campbell. *hc*, A. Carswell.

DORKINGS (Coloured).—1, J. Allan. 2, J. Logan. *Chickens.*—1, Sir. G. Grant. 2, J. Clark. *hc*, T. Raines.

DORKINGS (White).—1, J. Logan.

COCHINS (Coloured).—1, G. Murray. 2, A. Campbell. *hc*, R. E. Brown. *Chickens.*—1, R. E Brown. 2, A. Campbell.

COCHINS (White).—1, W. Gibb. 2, G. Murray. *Chickens.*—1 and 2, Mrs. Ford.

BRAHMAS (Dark).—1, R. Brownlie. 2, T. Raines. *Chickens.*—1 and *hc*, J. Stuart. 2, J. A. Dempster.

BRAHMAS (Light).—*Chickens.*—1, J. A. Dempster.

SPANISH.—1 and 2, R. Somerville. *hc*, Mrs. Gracie. *Chickens.*—1, Mrs. Gracie. 2, R. Somerville. *hc*, Mrs. Dart.

SCOTCH GREY.—1 and 2, J. Meiklem. *hc*, R. Blair. *Chickens.*—1, J. Meiklem. 2, J. Logan.

HAMBURGHS (Gold-pencilled).—1, H. W. Pople. 2, W. R. Park. *hc*, J. Logan. *Chickens.*—1, W. R. Park. 2, J. M. Harvey. *hc*, J. Logan.

HAMBURGHS (Silver-pencilled).—1, J. Logan. 2, A. Crosbie. *Chickens.* 1, J. Logan.

HAMBURGHS (Golden-spangled).—1, J. F. Loversidge. 2, J. C. Miller. *hc*, Mrs. Brown. *Chickens.*—1, J. H. Macnab. 2, Mrs. Brown.

HAMBURGHS (Silver-spangled).—1, J. Logan. 2, J. H. Macnab. *Chickens.* 1, J. Logan. 2, J. H. Macnab

POLISH (Black).—1, J. Logan. 2, R. Smith.

POLISH (Silver-spangled).—1, J. Logan.

GAME (Black or Brown Reds).—1, J. Logan. 2, J. Waddell. *c*, D. Hardie. *Chickens.*—1, H. Goodall. 2, W. Sprout. *hc*, J. H. Macnab.

GAME (Duckwings).—1, J. Waddell. 2, J. Logan. *Chickens.*—1, H. Goodall; 2, J. H. Macnab.

GAME (Any other variety).—1, D. Harley.

GAME BANTAMS.—1, J. Gow. 2, H. W. Pople. *hc*, J. Waddell. *Chickens.* —1, Sir G. M. Grant. 2, J. Gow. *hc*, H. Goodall.

BANTAMS (Gold-laced).—1, W. Gibb.

BANTAMS (Silver-laced).—1, R. Frew.

BANTAMS (Any other variety).—1, 1, S. S. Mossop (Black). 2, S. H. Stott (Japanese). *hc*, J. Archibald. *Chickens.*—1, H. Goodall. 2, D. Forrester (White).

ANY OTHER VARIETY.—1, W. R. Park (Crêve-Cœur). 2, J. Logan (Black Hamburghs and Crêve-Cœurs). *Chickens.*—1, J. Logan (Black Hamburghs).

DUCKS (Aylesbury).—1, Mrs. Hendrie. 2, G. F. Lyon. *Ducklings.*—1, Lady Montgomery. 2, Mrs. Hendrie. *hc*, T. L. Livingstone.

DUCKS (Rouen).—1, D. Hardie. 2, J. Sharp. *hc*, J. Logan. *Ducklings.* —1, J Sharp. 2, J. Thomson. *hc*, J. Gibson.

DUCKS (Any other Distinct Breed).—1 and 2, J. Logan (Grey and White). *hc*, J. Thomson. *Ducklings.*—1 and 2, J. Logan (Black).

TURKEYS (Norfolk).—1, J. Gibson.

TURKEYS (Any other breed).—1, J. Stenhouse (Cambridge). *Poults.*—1, J. Stenhouse (Cambridge).

GEESE (Grey).—1, D. Hardie. 2, S. H. Stott. *hc*, J. Logan. *Goslings.* —1, D. Hardie. 2, S. H. Stott.

GEESE (White).—1, Duke of Buccleuch. *Goslings.*—1, Duke of Buccleuch.

JUDGES.—Mr. R. Teebay, Mr. Gelmore, Lord Binning, and Mr. H. Beldon.

THE INTRODUCTION AND PROPAGATION OF LIGURIANS.

(*Continued from page* 72.)

PRESUMING that the inteuding propagator of the Italian race has by the mode which I have already described, been enabled to establish one or more stocks of common bees in moveable-comb hives, I shall aseume that he has ordered some Italiau queens which he is anxious to substitute for the reigning monarchs. Let me then lay it down as an axiom, that *young bees receive an alien queen much more readily than old ones*, and that, therefore, the illustrious stranger runs comparatively little risk if she can be introduced to a population consisting entirely of juveniles. Supposing, therefore, that it is summer time when advice is received of the approaching advent of the Ligurian queens, a similar number of artificial swarms should be formed by removal in the following manner:—

During the middle of a fine day, when the bees are in full work, look over the combs until the queen is discovered upon one of them*, which place in the centre of an empty hive, and, if possible, support it on either side by a spare worker-comb. Then bring the combs of the old hive together so as to leave the vacancy on one side, closo it, and put it in a new position a short distance off, placing the new hive with the queen on the old stance. Every bee which has once taken wing will in the conrse of a day or two return to the old place, and thus make up a swarm, which, having a fertile queen and a comb full of brood, will probably do exceedingly well, whilst the old hive remains in the exclusive possession of the rising generation. On the eighth or ninth day (or sooner, if the Italians come to hand), the latter should be carefully examined by lifting the combs out one after the other, shaking off at the same time most of the bees so as to make sure that no royal cell escapes notice, and then carefully excise every one of them. If the arrival of the Italians be still longer delayed, this operation must be repeated a few days afterwards, so as to make sure of the extinction of the recent dynasty. When the alien queen arrives she must be first introduced to her future subjects under the protection of a queen-cage, in which she should be confined with two or three of her own workers until the next day, when she may be liberated, and when it is tolerably certain she will be well received. With regard to queen-cages, I may add that I always use an ordinary wire pipe-cover pressed into the surface of a brood-comb until its edges come in contact with the "partition wall," in the manner recommended by Kleine.

* Examine this comb carefully, and see that there are no royal cells upon it. If any are discovered, they should be at once excised.

On the 13th of July, and after the foregoing part of my article was written, I was unpleasantly reminded that there was yet another contingency which had not previously occurred to me. Being then with my family by the seaside, I was telegraphed for, and on my arrival in Exeter, found that a consignment of Italian queens had come to hand without any previous notice whatever. The remainder of the day being taken up with examining the condition of the royal travellers, and despatching most of them to different parts of the kingdom, I was obliged to defer operations on my own behalf until the next morning, when not having any colonies in a fit state to form artificial swarms, I was compelled to attempt the direct substitution of one queen for another, which was effected in the following manner:—

Looking over the combs I discovered and captured the queen, which with a few of her workers, I confined in a small box with a bit of sealed honeycomb, until the fate of the pretender should have been determined. Two days afterwards, I examined the hive, and slitting open every royal cell picked out its diminutive occupant with the point of a penknife. I then caged the Italian queen on a brood-comb, and next morning had the satisfaction of finding that no more queen-cells had been founded, and that, as far as could be judged by the demeanour of the bees, they were likely to accord a favourable reception to their new sovereign. I lost no time in putting their amicable disposition to the test by releasing the captive queen, and had the pleasure of finding that she was accepted without demur. It is not a little singular, that most of those to whom I sent queens in this unexpected manner, seem to have had but little difficulty in introducing them, and I hope ultimately to learn that all have been successful.

Imported Italian queens are, however, cheapest in the autumn (about October), when it is no longer practicable to form artificial swarms and thus to introduce them to juvenile bees only; but fortunately at this season the elders of the hive seem no longer to entertain an insuperable objection to a new sovereign, and the exchange may be effected with little or no risk, if only the requisite degree of caution be observed.

The hive must in this case be examined as soon as advice is received of the approach of the Italians, and the queen having been captured, should with two or three score of her subjects be placed with a bit of sealed honeycomb in a small, well-ventilated box, and carefully preserved as a *dernier ressort* in case of failure. Extinction of her dynasty having been afterwards effected in the manner before described, the Italian pretender to the vacant throne must in the same way be first introduced to her intended subjects, under the protection of a wire cage, which having been secured between two of the brood-combs, the hive should be closed and left undisturbed until the next day, when the cluster of bees surrounding the royal prisoner should be critically examined, and her liberation or continued incarceration determined on in accordance with their demeanour. If this cluster assumes the appearance of a dense knot of workers intertwined and clinging closely together with all the strength and energy of which they are capable, and momentarily increases its dimensions by the accession of numbers of bees which rush impetuously towards it from all parts of the adjacent combs, the regicidal frenzy continues in full force, and its hapless object must still remain within her prison-bars, in order to be protected from the fury of the raging multitude without. If, on the other hand, the bees which surround her cage are so few in number as to permit a glimpse of the movements of the royal prisoner and her companions in captivity, whilst none cling "like grim death" with curved and threatening abdomens against the wires of the cage, but rather assume the quiet and respectfully attentive demeanour which marks the ordinary deportment of workers in the presence of their acknowledged sovereign, the imprisoned queen may be at once released with every prospect of success, and if she be allowed to traverse the combs for a few seconds in view of the bee-keeper, he will be enabled to judge of the character of her reception. Should she obtain the respectful homage proper to the royal progress of a liege sovereign among her loyal subjects, the hive may at once be closed with every hope of a successful issue; but if she be seized and detained, she must again be restored to the protection of her prison, there to await the return of her rebellious subjects to a more dutiful frame of mind. There are, of course, almost infinite gradations and degrees of difference between the dense knot of would-be regicides which I have first described, and the comparatively few watchful attendants who wait with respectful patience to welcome their future sovereign on her release from captivity, and it requires some practice to enable the bee-keeper to determine with certainty when it is best to release an imprisoned queen, since, if she be left too long incarcerated, the outsiders seem at length to come to regard her with indifference, and she ultimately perishes either from lack of food or from the effects of her unnatural and constrained position.—A Devonshire Bee-keeper.

(To be continued.)

ENTHRONING LIGURIAN

I received two queens from Mr. Woodbury on the evening of the 14th July. The following morning I took the queens from two stocks which I had prevented from swarming, and made two swarms from the old bees, and then placed the two Italian queens on the top of the old stocks, putting perforated zinc between for them to fraternise through until the morning of the 16th, when I bored a small hole in the zinc, so as to allow one bee to pass through at a time; and when four or five had passed, finding that they joined the few workers in the box peaceably, I allowed a few more, until I had a good many mingled together. In about an hour I removed the perforated zinc and allowed them to ascend. They set up a joyful hum, and to-day (Saturday, July 17th), they are working cheerfully, and I believe I have not lost a single bee from fighting; so that I have been successful with both queens, having placed them at the head of two good stocks, with full combs and plenty of honey to keep them through next winter.—C. B. H.

OUR LETTER BOX.

Turkeys Roupy (*M. H.*).—Turkeys, like Pheasants, want much painstaking bestowed on them when young. They are very subject to the incipient roup from which yours are suffering. Keep the old hen shut up till the sun has dried the grass and the country, and there is no appearance of dew or frost. Choose a very dry place for the hen to be under the rip, and let it be tolerably open to the sun. Wash with cold water and vinegar the heads of those affected. Give them ale to drink, and administer to all two pills of camphor the size of peas. If you do this, shelter them from draughts, and let them out only when all is dry, they will recover.

Chickens Dying (*A Subscriber*).—Something disagrees with your chickens. They have too much of something, or they lack something. As we cannot tell which it is, we shall endeavour to give you some general rules, which, if followed, should prevent such a visitation. Keep the hen always confined; let her rip face the sun; see that the chickens are fed at daybreak; let them have dust to bask in; give them beer to drink; feed frequently on chopped egg, bread and milk, bruised wheat, meal slaked with milk, and cooked meat chopped fine. Let the rip in which the hen is confined be shifted to a fresh spot every day. If she is not on the grass, let her be supplied daily with a large sod of growing grass, cut with plenty of mould; she will tear it to pieces, and the chickens will find food and health from it. These are only necessary cares while the chickens are young or sickly, and it is because yours are suffering we advise it. You may give each a pill of camphor the size of a small pea.

Black Hamburghs' Plumage (*Black Hamburgh*).—We shall be very glad to give you our best advice. All the black breeds are prone to throw coloured feathers. Our best Spanish breeders can tell you the plague of white feathers in the hens and red in the cocks. You say the white feathers have appeared only in the cockerels. It is common. The Black Cochins were given up for this reason. The pullets were always black, the cocks never were. They were sometimes white, sometimes red. There is the same in Black Polands—the cocks very frequently throw red feathers. The Spanish chickens are all hatched black and white, and frequently keep white feathers till after the first year. If all the chickens come as you describe we should doubt the purity of the parents; if only the cocks are faulty we do not doubt it at all. The Black Hamburghs are a manufactured breed like the Black Cochins, and subject to the same vagaries. Tell us whether the parents are black, also whether the chicken pullets are black.

Paddock Poultry Show.—We have received complaints of letters to the Secretary having been returned to the writers, in consequence of insufficient address.

Feeding Cygnets (*M. C.*).—The proper way to feed cygnets is to give them bran, oats, and meal in a large flat vessel, the bottom of which should be covered with gravel or a sod of growing grass, the food placed on it, and the whole covered with water. Cygnets, and even grown-up Swans, love to make "little dirt pies."

Keeping Ducks (*Idem*).—Ducks as a rule do not require water. In the breeding season a tub or small pond about 4 feet square and 2 feet deep is necessary.

Gapes (*D. K.*).—Give each chicken daily a piece of camphor the size of a pea. Rail off the sewage gutter; let them have none but clean water to drink, and give them bread soaked in ale once daily.

General Treatment of Parrots (*E. Fell*).—Bread and milk should be the principal food, but not too much milk. Give also biscuits broken small, grain, nuts, and ripe fruit, also boiled Indian corn. Let them have water to drink, and sometimes a bath. Keep them very clean and warm.

Aged Parrot (*Trevor Dickens*).—We believe the paralysed bird is utterly incurable.

Bee-keeping (*T. P. F.*).—We know of no shorter or plainer pamphlet on the subject than "Bee-keeping for the Many." You can have it free by post if you enclose five postage stamps with your direction. It is often given away among cottagers.

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 12—18, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
12	Th	Taunton Deane Horticultural Show.	75.2	50.5	62.8	16	43 af 4	27 af 7	28 af 10	55 af 9	5	4 46	224
13	F	Birmingham and Bawtry Horticultural	74 5	50.1	62.3	19	44 4	25 7	47 10	22 10	6	4 36	225
14	S	(Shows.	72.9	50.7	61.8	18	45 4	23 7	after.	51 10	☽	4 25	226
15	Sun	12 Sunday after Trinity.	73.1	50.0	61.5	17	46 4	21 7	17 2	25 11	8	4 13	227
16	M	(and General Meeting.	73.0	51.1	62.1	20	48 4	19 7	24 3	morn.	9	4 1	228
17	Tu	Royal Horticultural Society, Fruit, Floral,	72.8	49.9	61.3	22	49 4	17 7	26 4	6 0	10	3 49	229
18	W	Ryde Horticultural Show.	73.2	50.5	61.9	15	51 4	15 7	18 5	53 0	11	3 36	230

From observations taken near London during the last forty-two years, the average day temperature of the week is 73.5°; and its night temperature 50.4°. The greatest heat was 92°, on the 18th, 1842; and the lowest cold 36°, on the 18th, 1866. The greatest fall of rain was 1.14 inch.

STRAWBERRY CULTURE—WATER SUPPLY.

THE stern ungenial weather of the past spring, and the very late time of the year at which real summer weather commenced, so retarded vegetation and injured the fruit crop as to make the present season a singularly marked one.

The past and present seasons would, if it were necessary, prove incontestably the advantages of high culture for the Strawberry, not only as regards the production of fine fruit, but also in enabling the plants themselves, by their robust constitution, to pass through such summers as that of last year with undiminished vigour. Wherever a full crop of Strawberries has been obtained this year, it is certain that proper means must have been diligently applied; for, after all, in the hands of a practical and energetic man, the production of Strawberries is simply a question of ways and means. In respect to success, there can be no fair comparison between A, who has heaps of rich manure, water in abundance at a convenient distance, above all, plenty of assistants to carry out his plans, and B, who is equal or even superior to A in skill and energy, but who, having but a scanty supply of those materials so necessary to success and so lavishly supplied to A, knows full well how futile and unavailing his efforts will be to produce any approach to a first-class crop. I would strongly urge upon all those who may be contemplating the formation or improvement of a garden, to keep in view an abundant supply of water. The soil, situation, and aspect are, it is true, important considerations, but however favourable they may be, if there is a deficient supply of water the crops must at times suffer. My own idea of a good water provision is one or more cisterns open at top, so that the water may be thoroughly soft and of the same temperature as that in which the crops are growing; and these cisterns should be sufficiently elevated to force the water through pipes and a connecting hose to any part of the garden. This method may appear at the first sight rather expensive, but if the saving of time and labour be taken into consideration it will be found to fully counterbalance, if not to exceed, the cost of an apparatus so thoroughly efficient.

Not very long ago I visited a garden in which the importance of this mode of distributing water appeared to be fully recognised; almost every glass house had its own elevated cistern with pipes attached conveying the water into the houses, in which, when necessary, other cisterns were placed. Watering at such a place must be a very different affair from what it is at others where the water has to be taken from a distance in water-pots.

I fear the Strawberry crop of the present season has, generally speaking, been poor. A friend, whose pleasant articles frequently appear in these pages, once observed to me that a really good gardener ought to be able in most instances to combat and to overcome the bad effects of an ungenial season. Although there is much truth in this remark, yet, as I have before observed, it is just a question of ways and means; for instance, where do we find a fair crop of Strawberries this summer? On those sturdy one or two-year-old plants whose unchecked vigour has been fully sustained by a plentiful application of rich stimulants; and it is amongst old plantations where the plants have become weakened in constitution by the combined effects of a parched soil, very little manure, and, in fact, a general starvation system that the principal failures have occurred.

The treatment of Strawberries during certain periods of their culture requires great promptitude and care: immediately after the crop of fruit is gathered the alleys should be cleared, and as much rich fat manure forked in as possible. Then, when the plants put forth their new roots into the rich food awaiting them, what is the result? Strong healthy foliage, plump well-developed crowns, in the hardier kinds an almost evergreen habit, and fine fruit in abundance in the following season. But if, after the crop is all gathered, the plantations are permitted to remain untouched for a month or more, and then, just as the fresh young roots are trying to force their way through the trampled and starved soil, the manure is forked in, the fork tearing up the young roots, and thus seriously checking the young growth at the very time it ought to be receiving every encouragement—in such a case failures are not to be wondered at; for by the time the plants have fully recovered from the effects of the ill treatment and are again fairly growing, the heat of summer is passing away, cold autumnal nights are setting in, the earth heat is dimiuishing fast, and consequently the thin weak tissue of the foliage succumbs to the inclemency of winter, and towards spring the plants become so denuded as to be hardly visible.

In forming new Strawberry beds, attention should be given to planting suitable kinds on various aspects, so as to obtain fruit early, also to have crops forming a succession to each other for as long a time as possible. Thus, for the earliest pickings such poor kinds as Black Prince and Keens' Seedling become really valuable when planted on a warm sheltered border facing the south or south-west. Princess Alice Maude, too, is a useful kind, following the others well, and is slightly earlier than Marguerite. With the ripe fruit of Marguerite the season for good Strawberries may be said to commence in earnest; for the first three, although very useful to the gardener for an early supply, would probably be esteemed worthless by those who care for nothing but large high-flavoured fruit. The general crop growing in any of the more exposed parts of the garden may be very usefully supplemented by a bed growing under the shade of standard fruit trees. For the last few days I have been supplying two dishes of Trollope's Victoria daily from a bed overshadowed by the branches of an old Pear tree, and I have thus been enabled to satisfactorily prolong the season of this favourite fruit.

In an article on this subject published last summer, I stated that a little rich soil stirred in with a trowel was all that was necessary to give the young plants or the runners a start, but last season caused an alteration in my plans in this respect. This year every young plant has had a small pot; the pots are filled with very rich cool soil, and are plunged to the rim, and in each pot one

offset still attached to the old plant by the runner is fixed and kept steady by means of a peg placed close to the outside of the pot. The plants are watered daily, and quickly become established; they are then separated from the old plants, and are at once turned out in the beds prepared for them. Plants so treated sustain no check, as each has its own compact ball of soil; and as care is taken to turn them into soil as rich as possible, and to give water when necessary, they make a rapid growth, and become stout thriving plants by autumn.

Of kinds that have produced fair crops this year, I may mention Sir Charles Napier, John Powell, Alice Maude, Newton Seedling—a hardy sort, very prolific, the fruit high-coloured and very firm, keeping better than that of most other varieties, but it is deficient in flavour and juiciness—Eliza, and, most vigorous of all, Trollope's Victoria. Duc de Malakoff has produced a fair crop, but the fruit did not attain its usual enormous size. Amongst newer varieties planted for the first time last season, I like the appearance of Lucas, President, and Cockscomb; especially that of the first two, which have proved very robust and prolific. Wonderful is not quite so free in its growth; its fruit, so far as I have seen, is in shape quite distinct from that of any other kind, but I have not yet seen enough of it to form a fair opinion of its merits.—Edward Luckhurst, *Egerton House Gardens, Kent.*

A FEW ROSE NOTES.

I believe jottings, however few, on this our favourite flower, are always acceptable, and I make no apology for adding a few to those I have already given.

Mdlle. Marguerite Dombrain.—It is always pleasant to have one's opinion confirmed by competent judges, and as, when Mademoiselle Marguerite Dombrain was brought out, I gave it a good character, I was very pleased the other day to receive a note from one whom all will acknowledge to be a really good judge, Mr. Rivers, commencing thus—"I have gathered to-day three blooms of Marguerite Dombrain, the most magnificent Roses I ever saw—it is La Reine spiritualised."

Maréchal Niel.—It is quite clear that this is a Tea-scented Noisette, and not a Tea Rose, and that like all of that class, it does best on the Briar. Then there is no question of its flowering, and no need of a wall, although it succeeds, perhaps, best there.

Marie Sisley.—This is one of the most lovely Tea Roses that we have received of late years, the colour of the petals is a very delicate primrose, with a deep border of rich pink. Even during the hot weather it has been lovely, and when the temperature becomes cooler I can well imagine that its beauty will be increased; in the meantime I would strongly advise all who grow Tea Roses to get it, and propagate it, for I venture my Rose reputation on its being a general favourite, and I congratulate my friend, M. Guillot fils, on having raised it. It is more rotund than Tea Roses generally are.

Adrienne Christophle.—Another very beautiful Tea Rose. The colouring is very rich; sometimes the centre is of a beautiful deep peach, at other times coppery yellow, while the outside petals are deep rich yellow. At present there is a slight degree of looseness about the flower, wanting the fine firm petal of Madame Margottin. This may improve, but under any circumstances the Rose is beautiful, and will, I am sure, be generally grown.

Souvenir de Monsieur Poiteau.—The second crop of bloom has shown some very large flowers; they still retain the peculiarity of colouring which marked the earlier ones. It has the defect of being somewhat rough in the centre; but withal it is a Rose that must be grown.

Madame Thérèse Levet.—A Rose that was missed when it came out, but is now in the class of deep pink flowers. A most prominent flower.

Charles Verdier.—I have this year been disappointed in this flower, so very few of the flowers have opened, showing, in fact, too much of the La Reine blood; but a friend who was visiting me the other day, says that with him it is very fine.

Baroness Rothschild.—No doubt one of the greatest acquisitions we have had of late. The flowers are large, of a lovely pink colour, and it is altogether a first-rate variety.

Monplaisir.—This is, doubtless, a Gloire de Dijon, having exactly the same habit, and foliage, and form of flower: the colour is different, much paler, more like what Gloire de Dijon is when exposed to the sun.

La France fully maintains the good opinion I had formed of it; it is especially good early in the season, and late in autumn; the buds are at all times most lovely.

Jean Cherpin.—I have been greatly pleased with this Rose this year. It is not full, I know, but there is a richness of shading about it that I cannot call to mind as equalled by any other Rose, and as I do not grow for exhibition, but for my own pleasure, and that of my neighbours, I can afford to have flowers which are not exactly show flowers, if they possess some one good quality.

Thyra Hammerick.—I have again to express a favourable opinion of this new Rose. It is quite in the Duchess of Sutherland style, but a great improvement on that old Rose.

Miss Ingram.—Never was there a greater disappointment than that occasioned by this new Rose. It was hailed by us all as a grand addition, believing as we did that it was a Hybrid Perpetual. It would then have been valuable; as a summer Rose it is useless, being a reproduction a *leetle* improved of the old Lady Stewart.

Margarita (Noisette).—A regular rambler, but as yet showing no sign of bloom; if it is going to partake in this respect of the qualities of Cloth of Gold, it will not do for us; but it is too early yet to judge.

Duke of Edinburgh.—A splendid high-coloured Rose, deep shaded crimson, good in habit and constitution, and sure to be in every winning stand.

I have here mixed together new and old, and have merely given such notes as struck me in looking over my Rose trees, thinking that such notices may be of assistance to others. My locality is a sheltered one, my soil is good, and my Roses are all on the Manetti stock.—D., *Deal.*

UNHEATED ORCHARD HOUSES.

The present unusually unfavourable season for fruit culture seems to have caused owners of unheated orchard houses a degree of discouragement which is hardly called for. In a former article on the subject I mentioned one cause of failure which I believe to be universal, and that is overcropping, with its concurrent evils of overcrowding, shading, or in any way obstructing the free access of sunlight and air to all parts of these structures. By any or all of these means the true use of unheated orchard houses is set aside. I shall here mention very briefly the principal causes of the short crops of this season—in my opinion, at least, for many different theories are afloat.

And first, in the case of trees in the open air. These could hardly have suffered, even in light soils, from the excessive heat of last summer. We can understand an increase of red spider and mildew, but not sufficiently severe to neutralise the good effects of the sun's rays in thoroughly ripening the shoots. At Montreuil, where there are few Peaches this year, the extremely light colour of the calcareous soil is easily remedied by layers of mulching and dark earth. The mild winter which we had was eminently suited to the Peach and other crops; but there can hardly be a doubt that the excessive and continuous downpour of rain, with the lowered temperature, completely and mechanically washed away the pollen, so that scarcely a bloom could set. Against this penetrating and prolonged drenching slight screens of tiffany must have been quite useless, and nets of woollen material no better. What we must eventually come to for the open wall, are screens of stout calico, of the same texture as a soldier's "shelter tent," or as the French say, *tente d'abri.* Such a tent, when placed at a greater angle than 45°, will throw off many hours of rain, but is not to be relied on at a less angle. Having myself made many such, and also used them for sketching, I can speak with certainty. This calico would also prevent the lodgement on the young leaves or blooms of fruit trees, of sleet or snow, which, melting under a sudden gleam of sun, are fatal to vegetation. Either rolled up, or with sliding rings, which I think Mr. Radclyffe, an excellent authority, now uses, these cheap calico screens would have saved much of the out-door fruit crops this year. Of course, they require attention to take advantage of casual sunshine and arrest radiation, and give to some extent the same trouble that orchard houses do.

In the case of orchard houses, it is evident that neither this downfall of rain, nor the low and damp temperature, can quite account for failure, as they can be guarded against in a great measure. I shall, therefore, dismiss these as sole causes of the evil, and endeavour to trace it elsewhere. The chief reasons of ill-success have been already asserted in this paper to be overcropping and overcrowding; and it is evident that an un-

heated orchard house, in which the trees have stood too thickly together for several seasons, can have but a poor chance in unfavourable springs for setting the blooms. The trees must gradually have become full of dwarfed shoots, and the foliage been a prey to insects, whereby the energies of the tree were diminished. It would be impossible to regulate the shoots in such a house, or to obtain a free circulation of air, or even to renew the dressing of the pots. When, therefore, the exhausting blooming process was at hand, there was no reserved vitality in the trees; they had acquired a feeble habit of growth, and had nothing for an emergency. If to such a state we add the presence of Peach trees trained up the rafters, or worse than this, of luxuriant young Vines obstructing the sun's precious rays, can we wonder at the crop either not setting or not stoning?

Where the demands of a large establishment require a supply of early salading, or young Peas and Beans, or early Potatoes in pots thickly placed between the fruit trees, and a row of promising Strawberry pots lines the front, not to speak of a large stock of valuable bedding plants of all sizes and kinds, all of which require abundant supplies of water at the very period when the evaporation from it is fatal to the bloom—where these and such exist, why need we accuse the climate of failing to set our fruit without fire heat? Again, it is a theory with some, that ventilation cannot be too free in orchard houses, and often we are glad to escape from these into the open air, on account of the deadly cold draughts. Many orchard houses are most injudiciously placed, and all low and ill-drained localities are prejudicial to the setting of bloom. For the same reason stagnant and damp air is fatal when enclosed within glass. Another, and to my mind an especial cause of failure in cold localities, or generally in such springs as the present, is the faulty construction of many orchard houses. On this large subject I will here only say that a few such experiences will show that lean-to houses with solid back walls are far more favourable for Peach culture than span-roofed houses. The latter, though handsomer, are unfit for the colder counties. They cool down more thoroughly than lean-to's, and lose far more of the earth heat during the winter. By means of extra thick walls, and judiciously husbanding winter gleams of sunshine, a good lean-to is a week or two in advance of a span-roof at all seasons, and can better carry the bloom through the period of risk, being warmer at night, and more equably warm at any time. The use of a stove would also be more economical in a lean-to. A short brick flue, not very expensive to make nor to use, would save any crop in a very large lean-to, and by a judicious selection of very early Peaches, the crop would be weeks in advance of that in an unheated span-roof. In the last, I may here say that late Peaches should not form any large proportion.

But not to dwell on this portion of the subject, I here wish to add, that I am still of opinion, in spite of that clever writer "Archambaud's" adverse criticism, that "trees can really be made to acquire a habit of production which shall render them independent of atmospheric changes"—that is, of course, when under the artificial condition of culture in glazed structures. I have this season a very fine crop, abundant, well-coloured, and of unusually good size. Some sorts which I was on the point of discarding are wonderfully resuscitated this season. Golden Purple has its old rich lake mottles and pink ground, while Canary has become a 9-inch-round Peach, dissolving, and rich, but its fault, alas! is that it is a shy bearer. I can fancy my good friend Rivers sitting in his arm chair, with his usual pipe, and laughing at my "clerical error," in stating Early Rivers to have been 8½ inches "in diameter," but in the next paragraph he says that I have "correctly described it."(!) It is, without doubt, the best very early Peach I have seen. The stones were quite perfect, and have been sown already.

Is it too much to consider that having my usual amount of crop in this year of general shortcoming, it may be due to the habit of the trees themselves? It is they, after all, which have done it, and it was because for so many years having been regularly thinned down to much below their powers of production, they had a reserve of vitality (favoured, no doubt, by last year's sun), which store of energy they have used up in a gracious effort to oblige their master. A plant will, year after year, be made to produce about the same number of flowers, provided in no one year any extraordinary demand shall be made on its strength. Should my trees be weaker next season, it will only be because this year the crop is unusually large.

Nevertheless, I have much faith in my tried cordons, which have never yet failed. Nor do I consider that potted trees or standards could compete at all with these at any time, and on occasions like this would have no chance. Potted trees have their exclusive merits, and so have standards, but the bulk of my crop has been, and shall all the more in future be taken from cordons in the borders. As to pyramidal trees planted out, the less we use them the better for profit. Diagonal cordons on the back walls, or parallel with the houses; spiral cordons in the borders intermixed with pyramids in pots; a row of potted trees near the glass, and some vertical cordons, single, double, or triple, for the sides and corners; the whole house kept free from bedding plants or such like; the roof perfectly clear; ample means judiciously used for ventilation; careful thinning of the crop; no overcrowding; adaptation of the form of the house to the site and climate—these form what are chiefly required in unheated orchard houses.

Next season, let us hope, will find our trees refreshed by rest from production; not, however, that such irregular cropping is advisable. By not expecting too much from unheated houses, we shall arrive at a fairer standard. I have had visitors who looked with evident disappointment at excellent results, as I thought. Almost the first idea of cultivators is to grow a little of everything, by doing so they shortly arrive at growing nothing at all.

The above remarks apply, of course, to beginners, of whom there are many; but there is no doubt whatever that orchard-house culture has made wonderful progress, and much sound knowledge is current among amateurs.—T. Bréhaut.

RUBUS ARCTICUS.

I observe in a recent number an inquiry by "G. S." as to whether any of your correspondents ever fruited this elegant but neglected plant, which he has seen thriving in the open air so far south as Warwickshire, and the fruit of which was stated by Linnæus to be delicious, and commonly preserved in Sweden. I grew a bed of this diminutive Raspberry for eight or ten years at an altitude of about 450 feet in Midlothian, on an easterly exposure where the sun never shone after 9 o'clock A.M. The soil I used was good sandy peat, such as would do well for growing Heaths in, and which was laid about a foot deep over a bed measuring 4 by 8 feet. The Rubus spread in it rapidly till the bed became densely filled, and yielded a profusion of its pretty red flowers in spring, which were succeeded in due course by about a third of their number of pretty bright red Raspberry-like fruit, of which I had no difficulty some mornings in gathering a handful, which were really delicious. I have noticed that it will not thrive, or at least fruit well, if shaded by overgrowing trees or shrubs. My bed was shaded from the midday sun, as before stated, by a wall, but was otherwise perfectly exposed; and I have often thought that the Arctic Raspberry would form an excellent and appropriate fruiting plant if cultivated in the gardens of Highland shooting lodges, where it would be an estimable rarity to sportsmen about the 12th of August, after leaving the Strawberry season in the south.

I may also mention that alongside of the Rubus I had a similar bed of that pretty namesake of the immortal Swede, Linnæa borealis, which in May or June was profusely covered with its tiny, drooping, delicately-scented, flesh-coloured flowers; and throughout the year its prostrate, creeping, leafy stems formed a beautiful verdant carpet, vastly superior to many of our modern fashionable bedding plants. Having on one occasion been favoured by a visit from a Swedish agriculturist, he became quite ecstatic on seeing it in full bloom, jumping and bawling out at the extreme pitch of his voice, "Linnæa! Linnæa! our Linnæa!"—W. G.

SUPERIOR BEDDING PELARGONIUM.

Among a rare collection of Scarlet Pelargoniums by far the most beautiful bedder I have this year is Bayard, raised by Mr. Pearson, of Chilwell. In a trying situation, and through two months of a trying season, whether in heat or cold, wind or rain, it has been in brilliant beauty, the trusses many and large, and the intense crimson unimpaired. My gardener finds it equally good for forcing, and, indeed, like its namesake of old, I think it *sans reproche*.—Sans peur.

Roses on their Own Roots.—I would fain remind those who wish to try Roses on their own roots, that now is the best

time to plant; they will make good growth, and form fresh roots, and almost a season will be gained; at any rate, a much finer display may be secured next season.—D., *Deal.*

PAPERS READ AT THE HORTICULTURAL CONGRESS AT MANCHESTER.

COVERING WALLS WITH GLASS FOR THE PROTECTION OF FRUIT TREES.

The uncertainty of securing good crops of our finer fruits, such as Peaches, Nectarines, and Apricots, owing to the injuries from spring frosts, makes some kind of protection almost a necessity in our climate.

Lately orchard houses have been prominently advocated by Mr. Rivers and others, and when properly managed they have been a source of interest and profit to amateurs and gardeners with limited means of growing fruit on walls or in hothouses. Where there are walls with a southern aspect in gardens, a covering of glass will, however, be found the cheapest and most certain way of securing crops of our finer fruits. Where Peaches, Nectarines, and Apricots are only required to ripen by the natural heat of the season the expense of heating such structures artificially need not be incurred. The spring frosts likely to occur in March and April will not injure the blossoms, for I have proved this here on an Apricot wall temporarily covered with glass lights. Last year on the 12th of April the temperature was 8° below freezing, yet the fruit trees in bloom, and young Apricots as large as filberts, were uninjured under the glass covering, but on the open walls the crop was quite destroyed even where protected by branches and nets. For the last seven years the crop has never failed on this wall until the spring of the present year, for some varieties of Apricots are only thinly set with fruit. The season, therefore, may be called an exceptional one, and the failure in the crop accounted for by the excessive warmth in February followed by a dull and cold March. The trees showed plenty of healthy blossoms, but the pollen seemed glued together and did not disperse, and even the fruit where set dropped off from the sudden cessation of the flow of sap. Some varieties of Apricots on this wall, however, have set a good crop, such as the Kaisha, Breda, and Musch-Musch. In the midland districts all unheated orchard houses have very thin crops this year, showing that artificial heating is requisite in such structures in springs like the past.

When the new kitchen garden was planned at Welbeck, a range of south wall nearly 800 feet long was covered with glass on a novel principle. All the framework is of iron, and the roof made on the ridge-and-furrow mode, and glazed with strong plate glass cast on purpose to suit the curve of the roof. The openings for top ventilation are made in the back wall, and every alternate light in front is opened and shut by machinery worked from the inside. The height at the back wall inside is 13 feet, in the front 7 feet 6 inches, and the inside width 7 feet 4 inches. The structure is heated by hot-water pipes, and they were found very useful this spring. Good crops of Peaches and Nectarines have been secured, as well as plenty of Cherries, Plums, and Pears grown in pots. Fire heat is only used in the blooming time or in the autumn to ripen the wood, as the object is to get a succession of Peaches and Nectarines after the hothouse ones are over. In such structures, if unheated, it is advisable not to exceed 5 or 6 feet of inside width, so that the heat stored up in the back wall may have sufficient power to expel any frost when the trees are in bloom. In March and April the sun heat in clear frosty weather is often very strong, and when the house is shut up early in the afternoon there is quite heat enough reflected from the back wall to keep the blossoms safe.

The long range of glass-covered wall here has a very light and imposing appearance from the absence of any timber in the construction, and from the ornamental iron bays placed every 22 feet in the inside. These bays are for growing hardy Grapes on, and some varieties have this spring shown plenty of bunches to festoon the tops of the bays. All the iron work in the interior is painted of a light sky-blue tint, and the effect is very pleasing. The walk inside is a stone pavement laid on brick-on-edge walls, so that the roots of the fruit trees may run between them.

Besides the advantage of furnishing a promenade in bad weather, this extremely long range is useful for so many purposes that I must detail them at length. In the front, where the two rows of 4-inch pipes are placed, there is an iron grating covering them. Its width, 2 feet, is sufficient for a long row of three hundred fruit trees in pots to stand on. In April and May bedding plants in immense quantities can be placed between the pots, in order to harden off for planting out in June.

The fruit trees grown in pots consist principally of Cherries and Plums, and a few of the best varieties of Pears and Apples. No Apricots are required here for pot culture, as a sufficient supply is obtained every year from a wall protected by glass lights. The Cherries grown in pots come in about two weeks before those grown on the walls, and consist of the following kinds according to their time of ripening—Belle d'Orleans, Early Purple Gean, Werder's Early Black, May Duke, Waterloo, Black Tartarian, Cleveden Bigarreau, and, for the latest, Florence and Late Duke. The following kinds of Plums are grown in pots in quantities—viz., Early Favourite and Mirabelle Brahy's Green Gage, Jefferson, Cox's Emperor, Kirke's, Oullin's Golden Gage, Magnum Bonum, and Golden Drop. The Pears and Apples grown in pots are confined to a few varieties esteemed for their earliness, fine flavour, or colour. Pears.—Citron des Carmes, Doyenné d'Été, Yat, Jargonelle double-grafted on the Quince, which bears freely; Williams's Bon Chrétien, Marie Louise, and Beurré d'Amanlis Panaché, a variety beautifully striped with red; Doyenné du Comice, and Beurre Clairgeau. Apples.—Cox's Pomona, beautifully coloured when grown in pots; Cox's Orange Pippin: Melon and Northern Spy, both American Apples; and a beautiful Russian sort named the Red Transparent.

The selection of Peaches and Nectarines planted against the back wall comprises some of the new kinds raised by Mr. Rivers and the best of the old varieties. The Peaches, according to their time of ripening, are—Early Beatrice, Early York, Early Alfred, Dr. Hogg, Early Mignonne, Grosse Mignonne, Noblesse, Malta, a delicious-flavoured and medium-sized Peach of the Noblesse section; Stump-the-World, Barrington, Late Admirable, Walburton Admirable, Gregory's Late, Téton de Venus, and Salway. The Nectarines, in the order of ripening, are—Fairchild's Early, a very old small red kind; Hunt's Tawny, Rivers's Pine Apple, Violette Hâtive, Elruge, Murrey, Downton, Rivers's Albert Victor, and Victoria.

Another great use of this glass-covered wall is for producing salads in the winter months, for without much trouble a succession of fine succulent Lettuces and Endive can be had every day when wanted. The Endive is lifted with balls of earth and put into covered boxes in the Mushroom house, where it becomes sufficiently blanched in three or four days. The Lettuces are planted in the border in the autumn, and a slight covering of hay preserves them from severe frosts should the hot-water pipes not be used. A good supply of blanched Chicory is likewise had by sowing it in July on a north border, and lifting it, when wanted, to plant in large covered pots, where it soon blanches, and forms the *barbe de capucin* of the French salads.—William Tillery, *Welbeck.*

ON THE RESULT OF A FEW EXPERIMENTS WITH SUBTROPICAL PLANTS AT BATTERSEA PARK

DURING THE WINTER OF 1868-69.

Although subtropical gardening has found a home up to the present time only in the affections of the few, and consequently any remarks upon the subject can have only a partial interest; yet horticulture having planted one of its earliest standards in Lancashire, and met with signal and the most flattering support in and around the great city of Manchester, it is felt that no apology need be offered for introducing the subject I have chosen on this occasion, feeling that whatever is connected with the advancement of horticulture will not be without interest.

That the season referred to was a remarkably mild one, preceded by one of the finest English summers on record, is a fact that will be fresh in the recollection of all present. It may, therefore, with some force be argued that the same results would not follow a severe and unpropitious winter as those which have called forth these remarks—which, however, is a point we may reserve for the present, to be answered by future experience—suffice it to say that the experiments carried out at Battersea last winter were based upon similar tests made on a smaller scale during the last five years; and as regards Cannas, Erythrinas, Aralia papyrifera, and other plants, it may be asserted that if a covering of dry litter, or other loose non-conducting material, such as leaf mould, cocoa fibre, &c., of sufficient thickness to exclude frost, be employed, the plants beneath the covering would not be injured by cold, no matter how severe the frost. We have a parallel case described in reference to a plant of a totally different habit from those before alluded to—namely, Musa Eusete, the great Abyssinian Banana. The stem and roots having been effectually protected from frost and wet by similar means, it was preserved in perfect health during the winter of 1866-7 in the open air in a garden near Paris, producing a most luxuriant growth, and being admired by all who saw it, in the following summer (1867): and it is probable that the stems of Eucalyptus, and similar tender trees, which readily produce vigorous shoots from the stem, may be preserved in the open air in this country by similar means.

A covering of dry litter is the most simple means we possess for the protection of plants, and in adopting it a principle is involved that may be made subservient to the tastes and requirements of cultivators of subtropical plants, by employing such non-conducting material to exclude frost from the plants to be protected, as may enable the cultivator to nurse up evergreen shrubs, and so mask and render ornamental the otherwise unsightly subtropical beds during winter.

By means of the covering of litter alluded to, a bed of Canna peruviana, edged with C. expansa, 80 feet by 8 feet, has been preserved for the last two winters from injury, the former having attained the height of 12 feet last year, and it is now growing luxuriantly, and 5 feet high. A bed 45 feet by 7 feet of Canna Annei, another of the same variety, 70 feet by 8 feet, the former bed having stood one winter, the latter two—in these the plants grew 12 feet high last year, and are now over 5 feet. Other beds of Canna, varying in size from 60 feet by 8 feet to 20 feet by 6 feet, have been preserved out of doors by the same means, and are now equally vigorous. They are planted

in part with the following varieties, all of which have been found to stand well under this treatment—viz.,

Canna zebrina	Canna rubra superbissima
zebrina coccinea	floribunda
picturata fastuosa	aurantiaca splendida
peruviana	Annei rosea
limbata, now 5 feet high, four winters out	indica rubra
	grandiflora floribunda
nepalensis	Warscewiczii
Sellowii	Madame Année
grandis	expansa

The kinds of Canna named below, having very fleshy succulent roots, have not stood so well; the beds, of which they formed part, have required to be made good to some extent, and they cannot, therefore, be relied on for out-door winter work—viz.,

Canna edulis	Canna metallica
discolor	gigantea
robusta	nervosa
nigricans	

Erythrina.—Two round beds, each 9 feet in diameter, and one oblong bed, 42 feet by 5 feet, have stood out last winter uninjured, including

Erythrina ornata	Erythrina profusa
Marie Bellanger	Madame Bellanger
laurifolia	ruberrima
crista-galli	Hendersonii

The continental hybrids of these showy Coral Trees were expected to prove very tender; all the varieties, however, are growing very luxuriantly, and abundance of flowers is looked for. Only one plant in the three beds has sustained any injury, and this through field mice eating the bark.

Aralia papyrifera, the Chinese Rice-paper plant, is very justly regarded by many as one of the very finest ornamental-foliaged plants used in subtropical gardening. This plant, in a bed 13 feet in diameter, attained 5 feet high from cuttings struck in the spring of 1868. The plants were left out last winter, and although killed to the ground, the thick fleshy roots have this season produced numerous strong shoots or suckers. These are produced irregularly, and require to be thinned out, so as only to retain a crop; and a few spaces have required filling up to render the bed complete.

Aralia Sieboldii.—This differs from the foregoing in habit and appearance, and is of equal merit as a fine-foliaged plant; indeed, it is more valuable from its proving quite hardy, which we may be justified in stating after five winters' trial.

Echeveria secunda glauca.—This Mexican succulent, useful for the margins of beds and other purposes, is more hardy than is generally supposed. Having heard last year from Mr. Rogers, gardener at Bury Hill, Taplow, that it had borne 22° of frost the previous winter with him, a margin of one of the circular beds at Battersea was left out last winter. The plants on the southern half of the bed were uninjured, while every plant on the northern side was killed.

Solanum laciniatum elegans.—This elegant-foliaged plant has borne the past winter, and is now producing its neat pale blue flowers. This species, together with S. betaceum and S. pyracanthum, bears the winters at Rose Hill, Exeter, and, although sometimes killed to the ground, seldom fails in shooting up from below. In the same garden at Rose Hill, Cannas are grown out of doors, and never taken up in winter, except for the purpose of thinning and re-arranging the roots.

I must now conclude these remarks with the enumeration of the following plants, which have held their place out of doors last winter, and although not of sufficient importance to demand each a separate notice, are, nevertheless, useful adjuncts in subtropical arrangements—viz., Gunnera manicata, Polymnia maculata, Polymnia canadensis, Hibiscus palustris.—J. Gibson, *Battersea Park*.

VARIOUS METHODS OF GRAFTING.

WITH AN ATTEMPT TO INQUIRE INTO THE INFLUENCE WHICH THE STOCK EXERCISES UPON THE SCION, AND *vice versâ*.

"You see, sweet maid, we marry
A gentler scion to the wildest stock,
And make conceive a bark of baser kind
By bud of nobler race: this is an art
Which does mend nature, change it rather; but
The art is nature."

By the above quotation from "The Winter's Tale," it would appear that Shakespeare (whose profound knowledge of human life in all its phases has been, and will long continue to be, the wonder and admiration of succeeding generations of mankind), was by no means ignorant of the art of grafting. It is even reasonable to suppose that he would hardly have written the above lines had he not practised this art himself, or, at least, been thoroughly conversant with, and fully aware of, the desired objects for which the operation is usually performed. This art would, indeed, appear to be of the greatest antiquity, and the date of its discovery, like the name of its earliest practitioner, is hidden in the mists of countless ages. The practice is alluded to in Holy Writ, and Pliny and other ancient writers have also referred to the subject. In some of their writings fabulous descriptions are given of extraordinary fruit trees so grafted as to produce sundry and very dissimilar kinds of fruit, such as Apples, Plums, Figs, Grapes, &c., upon the same tree; but it will readily be supposed that if any such trees ever existed, they must have been produced by similar means to that said to be sometimes resorted to on the Continent at the present day, where trees are occasionally produced and offered for sale, on which appear to be growing the Orange, the Myrtle, the Pomegranate, &c., all upon one stem. All this, however, as may be supposed, is merely a deception, accomplished by boring out the centre of the stem of the largest variety used, and drawing the smaller stems of the other sorts through the hollow tube thus formed, each individual plant retaining its roots, and in this state a struggling existence is supported for a time. By the adoption of similar means the Strawberry plant has been represented as growing from the stem of a Rose tree. This, too, is accomplished by taking the runner through the Rose stem, which had previously been hollowed out for the purpose, while the roots occupy the same soil as that in which the Rose tree is growing.

It may, I think, be reasonable to suppose it possible that nature or accident may have first suggested the practice of grafting, as instances are frequently to be met with in woods and thickets where branches of trees happen to cross and press upon each other; and the friction caused by the action of the wind in time displaces the bark, and as the branches increase in strength this friction is resisted and the pressure increased until the result is a permanent and organic union. This may be considered as grafting by approach, a practice which cultivators have imitated in the method known as inarching.

Various modes of grafting are practised, all of which under certain circumstances have their respective advantages, but of these methods the limits of this paper will only allow me to glance at those which are found to be the most applicable to general purposes; and many other so-called methods may be considered as merely modifications of them.

In all methods of grafting it is of the greatest importance that similar parts should be placed as much as possible in contact with each other, and on this account the method known as Saddle-grafting may be considered amongst the best, as presenting the largest possible surface to receive the ascending fluid or sap. This method, however, does not appear to be so generally practised as might be expected—possibly on account of time being required to perform the operation, and it is also necessary that the stock and scion should somewhat nearly correspond in size. In performing the operation the stock must be cut into the form of a sharp inverted wedge; the scion split up the middle, and its sides pared down until it exactly fits the stock. By this method the leading shoots of Conifers and other trees can be grafted with great facility, performing the operation while the wood is only partially ripened, and this will usually be found to be the case about the middle of August.

Whip-grafting is probably the commonest method of grafting, and that by which fruit trees, such as Apples, Pears, &c., are usually increased. The *modus operandi* is to head or cut down the stock to within 2 or 3 inches of the ground, a piece is then sliced from the side of the stock, and the scion is similarly sliced. An oblique cut is made near the upper part of the stock, and a corresponding cut is made in the scion, forming what are called tongues, and these fit into each other. The barks of the scion and stock are carefully adjusted; they are then bound together, and clay or grafting-wax applied, to which the soil is usually drawn until all is covered except the scion.

Crown-grafting is usually resorted to in the case of aged trees, when it becomes desirable to change the variety. This mode of grafting is performed by cutting the stock horizontally across at the desired height, then cutting through the bark in a vertical line or lines, in number according to the size of the stock, slightly raising the bark, introducing the prepared scions between the wood and the bark, with their cut sides fitting to the wood, binding all together tightly, and applying grafting-clay in the usual manner.

Cleft-grafting is performed by cutting the stock horizontally across, and making a vertical cut to the depth of 2 or 3 inches. Introduce a wedge to keep the cleft open until the scion is fitted in, when the wedge must be withdrawn, a bandage applied, and the parts covered with clay or grafting-wax.

Side-grafting is practised in cases where it is not expedient to head-down there stock, but where it is desirable to keep up or to restore the regularity of the branches or fruit spurs. Choose scions in form somewhat arched or bent, cut the lower part in a long slant, and in those parts of the stock where it is desired to produce a branch or spur, cut a horizontal notch penetrating the wood to some extent. From this notch downwards make a vertical incision some 2 inches in length, penetrating to the wood; slightly raise the edges of the bark and introduce the scion, with the cut surface next to the wood of the stock; then bind carefully round, and apply grafting-wax or clay.

Shield-grafting or Budding.—This method is so universally understood and practised, that to attempt to minutely describe the operation would be a waste of time. By this method many sorts of fruit trees, Roses, &c., are increased, and it may be successfully practised from the beginning of July until the end of September. Moist and sunless weather, however, is most conducive to the success of the operation, which is performed as follows:—Take a young shoot—that is, a shoot of the current year, of the variety intended to be budded, having visible buds or eyes in the axils of the leaves; cut off the

greater part of the leaf, cut off a slice of bark and wood about 1½ inch in length, with the bud intended to be used in the middle; carefully separate the bark from the wood, avoiding at the same time in any way injuring the bark which contains the bud, and which, from its form, is usually called the shield; and insert the latter in the stock as follows:—Make a vertical slit through the bark, about 1½ inch in length, and a cross cut at the top; then with the sharp end of the handle of the budding-knife raise the bark on each side, and carefully insert the shield, cutting off that part of the top which does not rest upon the alburnum, or newly-exposed wood of the stock, by again passing the knife over the cross cut at the top; bind firmly with soft bast or cotton, and shade from bright sunshine.

Inarching, or Grafting by Approach, has already been alluded to as sometimes taking place accidentally. It is not always convenient to adopt this system, but when it is practical to do so, it is justly considered as the most certain method of grafting, as it is not necessary to sever the scion from its parent, from which it continues to draw its support, until it can be ascertained that a union has taken place with the stock. Inarching is very easily performed, by merely paring away a portion of the scion down to the alburnum or wood, and making a corresponding wound upon the stock; fit the cut surfaces accurately, and bind them tightly together. Grafting-wax may then be used, but this is not always necessary. By this means Camellias are usually increased; the single-flowered variety, which is readily grown from cuttings, being used as stocks. This is also found to be an expeditious method of proving newly-introduced varieties of the Grape Vine, taking for stocks young growing shoots of an established Vine. After carefully paring away corresponding portions of wood from the stock and the graft, both being in a green or unripened condition, fit them exactly, and bind them tightly together, taking care at the same time to avoid crushing or bruising the immature shoots; as soon as a union is formed let the ligature be slackened or removed, and the stock cut back to within an eye or two of the junction, in order to direct as much as possible the flow of sap into the scion.

To the celebrated Mr. Thomas Andrew Knight is due, I believe, the credit of being the first to recommend and to practise the system of Root-grafting; having, no doubt, observed that the roots of many plants retain their vitality long after being separated from the other parts of the plant, and evidently only require the presence of buds to enable them to develope perfectly organised plants. Root-grafting is now extensively practised, and is found to be an excellent and very expeditious mode of increasing newly-introduced plants, such as Roses, Clematises, Passion-Flowers, &c., inasmuch as a very small portion of the kinds to be increased can be readily grafted on a corresponding portion of the roots of some of their more common or hardier congeners, and under favourable treatment they very quickly form healthy plants.

In addition to the various methods already referred to, must be mentioned the system of double grafting, from which great advantages have been derived. It is found that some of our most delicious varieties of Pears succeed but indifferently when worked upon the ordinary Pear stock, also when grafted upon the Quince; but when the system of double grafting is adopted, a vast improvement is effected in the healthy development of the delicate varieties, and a corresponding improvement in the quality of their fruit. The method usually pursued is to graft the Quince with some of the stronger-growing varieties, such as Beurré d'Amanlis, &c., as a "go-between" or intermediate stock, and on this to bud or graft the more delicate but desired varieties. An eminent English pomologist has claimed to be the inventor of this system of grafting, but it is unfortunate for the establishment of this claim, and rather a realisation of the adage, "that there is nothing new under the sun," to find that this system has been recommended by a French pomological writer of a somewhat remote period, and even practised in that country as early as the year 1700.

I am unable to say whether or not double grafting has been successfully practised with the varieties of Cherries and Apples in cultivation, but the stocks in general use for the former are the Wild Cherry and the Mahaleb. The latter, on account of its surface-rooting properties, bears a similar relation to the wild Cherry that the Paradise does to the common Crab as stocks for the Apple. For the last-named, when intended to be cultivated as standard or orchard trees, the common Crab is, doubtless, the most suitable stock; but for the more delicate dessert varieties, more particularly when the trees are intended to be grown as espaliers or cordons, the best-adapted stock is, doubtlessly, the Paradise or Doucin, or Pommier de Paradis of the French. There would appear, however, to be more than one variety of the Paradise stock in use, and there would even appear to be some diversity of opinion as to which is the true variety, "and when doctors disagree who shall decide?"

So great, however, is the influence which the stock exercises upon the scion, and the scion to some extent upon the stock, and so vast is also the influence of soil and situation on both, that the subject of stock and scion opens up so wide and extensive a field for research and inquiry, that an excellent practical pomologist, writing lately upon the subject, says that our threescore years and ten hardly afford sufficient time to thoroughly explore and investigate it.

That the stock to a very great extent influences the scion as regards vigour of constitution, and in fruit trees productiveness and quality of fruit, is not to be doubted; and that the stock and the scion cannot in any degree influence or alter the specific character of each other may also, I think, be taken for granted. But the problem yet remains to be solved as to whether or not other conditions or peculiarities than have yet been alluded to, can or cannot be produced by the influence of the one upon the other; and should it be found that the scion and the stock are really capable of producing or developing certain conditions or peculiarities in each other, it will also be interesting and necessary to ascertain whether or not these peculiarities are of so permanent a character as to be retained by a part separated from the individual plant upon which they were first produced. If this should be found to be the case, then this production may, I think, with propriety be regarded as a "graft hybrid"—that is, a distinct variety, the united production of two other distinct varieties, partaking more or less of the nature and character of each of these varieties, and produced without sexual union.

My attention was drawn to this circumstance some time since by reading some extracts from an essay "On the Circulation of the Sap," by Professor Bradley, of the University of Cambridge, and dated so early as the year 1757. This learned professor says, "We find by inarching or inoculating a variegated common Jessamine, whose leaves are edged with white, into either the plain common sort, or the Spanish Jessamine, or the Indian or Brazil kinds, that the malignity which causes the whiteness in the leaves of the first mixes itself in such a manner with the juices of the plant it is engrafted upon, that their leaves become infected or tinged in some places with white colour. If we put only a bud of the variegated sort into a plain Jessamine 10 or 12 feet above the ground, the poison will reach the branches next the root, as well as those which are at a great distance above it." It is certain, from what the learned professor says, he believed the condition of variegation, at least, could with certainty be communicated from the stock to the scion, also from the scion to the stock; and on reading these extracts, the conclusion I came to was that experimenters of that period must have been similar to their brethren of the present day—viz., somewhat inclined to jump rather hastily at conclusions, and I regarded this leap on the part of the learned professor as a somewhat remarkable performance. At the same time, it really does appear that there are authenticated cases to be pointed out, where the entire stock appears to have been infused or inoculated with the condition of variegation by the simple insertion of a variegated scion or bud. As cases in point, mention may be made of the Broadalbane Ash, the Chelsea Jasmine, &c., and also the case of a green-leaved Abutilon which had been grafted with a variegated variety, and which appears to have induced the stock to throw out variegated shoots. This plant was shown before a meeting of the Royal Horticultural Society only a few months since, and M. Lemoine, of Nancy, has also lately published an account of similar occurrences taking place after grafting Abutilon megapotamicum and A. venosum with the same variegated variety as was used in the former case—viz., A. Thompsoni.

Some time since a statement also appeared in some of the horticultural periodicals to the effect that similar results to those narrated above, had been obtained by grafting the variegated Pelargonium Mrs. Pollock upon one of the many plain or green-leaved sorts, and thinking that I might be excused for taking liberties with this family of plants, I some time since instituted various experiments with them, in order to test as far as possible the influence of the stock upon the scion, and *vice versâ*. Unfortunately, however, these experiments up to the present time have been negative as to results, or not yet sufficiently advanced to warrant the forming of decided opinions upon the subject. Allusion, however, to them at the present time may not be altogether uninteresting, and may possibly induce other experimenters to direct their attention to the matter. The field for investigation is sufficiently extensive for any amount of inquiry which may be brought to bear upon it, and in proportion to this amount will be the probability of dispelling the cloud of uncertainty which at present rests upon the subject.

In my endeavour to produce the condition of variegation in the stock, I have grafted several varieties of the plain or green-leaved Pelargoniums with sundry sorts of the Gold and Silver-variegated kinds, and to try to produce variegation in the scion I have grafted green-leaved sorts upon different varieties of the Gold and Silver-variegated kinds. To try the possibility of transmitting or reproducing the quality of *scent*, I have grafted the highly-perfumed sorts, such as tomentosum upon green-leaved Zonals, and also upon variegated Zonals; likewise many of the plain and variegated Zonal varieties upon sundry sorts of the highly-scented Cape species. Anxious, also, to ascertain what might be the influence of the stock upon the scion in a family of plants not usually treated in the manner I am about to describe, I intruded my inquiries into the family of Leguminosæ. I have in various ways experimented on sundry members of that esteemed family, grafting green Marrow Peas upon the early white varieties, and early white sorts, such as Sutton's Ringleader, upon green Marrows, such as Yorkshire Hero, &c.; the white Mazagan Bean upon the Large Green Windsor variety, and the Green Windsor upon the Early Mazagan; Fulmer's Early Dwarf Kidney Bean upon the common Scarlet Runner, and the Scarlet Runner upon several varieties of the Dwarf Kidney Bean, and all of these grafted legumes are at the present time growing freely, with possibly a perceptible diminution of vigour on the part of the Scarlet Runner, which also evinces a disposition to emit roots immediately above the point of union with the stock. The seeds which

may be produced by these grafted legumes I shall carefully preserve, with a view to hereafter sowing them at the same time and in juxtaposition with seeds of the respective sorts not so treated; and I shall carefully note any deviation, if such there should be, from the normal type, as regards the period of maturity, habit of growth, colour, and quality of seeds, &c. It will be observed that these detailed experiments have been instituted mere with a view to obtain, if possible, visible or easily-recognised results, should any such be produced, than in expectation of developing improved varieties.

To successfully perform the operation of grafting upon such fragile subjects as the common garden Pea, Kidney Beans, &c., requires a steady hand and a very sharp penknife, and I will in as few words as possible describe my mode of proceeding. About the middle of March seeds of the sorts intended to be operated upon were sown in very light soil, in seed-pans, and placed in a temperature of about 60°. In six or eight days most of the sorts were sufficiently advanced to be grafted, and on freeing the young plants from the soil in which they had vegetated, the plumules or stems were found to be some 2 or more inches in length, and the radicles or roots of similar, or rather of greater length. The latter were left intact, care being taken in no way to injure them. Selecting two varieties intended to stand to each other in the relation of stock and scion, with a sharp penknife a slice was cut from the side of the stem of each, to the depth of nearly one-half the diameter of the stems, and about an inch or mere in length, commencing the slice at about half an inch from the cotyledons. The wounded sides of each plant were fitted to each other as accurately as possible, and bound together with a thread of soft bast, and the plants immediately potted in small pots, and placed in the same temperature as that in which they had been started into growth. They did not appear to have received any check or injury from the operation, but continued to progress rapidly, and at the end of five days they were placed in a cold pit; at the end of another five days they were again shaken from the soil in which they had been growing, the ligature was carefully removed, and in most instances a union was found to have been formed. It was now necessary to decide as to which variety should act as stock and which as graft or scion, and with a sharp knife the stem of the plant intended to be the scion was severed just above the cotyledons, thus entirely preventing it from deriving any benefit from its own roots, and rendering it wholly dependant upon the roots of the stock for its support. The stem of the stock was also pinched back to the leaf immediately above the union, in order to throw as much as possible the flow of sap into the scion, without, however, entirely depriving the stock of its foliage for a short time longer. The plants were again repotted and placed in a close atmosphere, in a temperature of about 60°, where they remained for a few days, when the stocks were cut back close to their junction with the scion, and any attempts on the part of the latter to emit roots into the soil were effectually checked, and the plants were now placed for a time in a cold pit before being finally planted in the open border.—P. Grieve, *Culford*.

HORTICULTURAL EXHIBITIONS: THEIR INFLUENCE ON GARDENING.

Everyone who attentively observes the current of passing events must have noticed that the present is essentially the age for exhibitions, whether we take those wonderful productions of the mechanician which, on the one hand, are composed of parts so minute and delicate as almost to rival the web of the spider; or, on the other hand, those ponderous machines, such, for instance, as a thousand-horse-power marine engine, the contemplation of whose gigantic powers is almost enough to take away the breath. In fact, almost everything that is in request, whether an object of use or of luxury, has to undergo the ordeal of competitive exhibition. And who is there who has not noticed the progress that has been made under the all-powerful incentive of this commendable and friendly rivalry which these exhibitions, of whatever description, have awakened, not only in those who take an active part in them as exhibitors, but in the far greater number who go either to gratify a feeling of curiosity, or with a disposition to learn? If we take a broad view of the matter, we see the wonderful influence that the Great International Exhibitions of 1851 and 1862 have had upon almost all things in everyday use. If these views are correct as to things in general, they are equally true as applied to matters connected with horticulture.

The cultivation of the fruits of the earth being the first occupation that man was engaged in, it follows that in remote ages some cultural knowledge must have existed, at least in so far as related to those things connected with his immediate wants. Of this we have evidence in the knowledge of the cultivation of the Vine possessed by the inhabitants of ancient Greece and Rome. Nor was their knowledge simply confined to the essentially useful, for we have evidence of their appreciation of the beautiful in vegetable forms, from their adoption of the wreath of Laurel to crown their greatest warriors and the champions in their athletic games. And here I may observe that no greater tribute could possibly be paid to horticulture than that, even amongst heathen nations—as evidence, pagan Greece and Rome in past ages, and the Chinese of the present day—the more civilised they are, the greater their knowledge and love of horticulture. The more humanised, civilised, cultivated, and refined an individual or a nation may be, the greater will be his or its love of horticulture, which in its turn is a most powerful means of improving, expanding, and elevating the minds of all who come within its influence.

There are two things necessary for the advancement of horticulture in any country—peace and prosperity. For the last fifty years with little interruption we have enjoyed these blessings, and during the time the advance made in most of the branches of horticulture has been very great. This in a great measure is traceable to the establishment of horticultural exhibitions, not only as seen from a cultural point of view, but also as causing the introduction of great numbers of new plants from every country where any could be obtained, which can be grown either in the open air, or with the assistance of these appliances in horticulture which have so greatly increased and improved in the present generation.

There can scarcely be a culinary vegetable named but has, by discriminate seed-saving, or skilful crossing or hybridising, been so far improved as to be vastly superior to its progenitors. Considerable improvement has also been effected in some varieties of fruits. In what are known by the name of florists' flowers, great numbers of plants that in their normal condition were quite insignificant, have, under the skilful manipulation of the hybridist, been so much improved as in many cases to leave little more than a faint trace of their origin. Many of these plants represent the most beautiful forms and colours, are of the easiest possible culture, and proportionately cheap, consequently within the means of thousands who love flowers but cannot afford to spend large sums in their purchase.

Within the last thirty years the demand for new plants has been so great, that almost immeasurable tracts of both the eastern and western hemispheres have been explored by plant-collectors, whose exertions have been rewarded by the discovery of great numbers of plants. In the Celestial Empire, Japan, India, Central America, and the far-distant regions of Australia and California, thousands of miles of territory previously unexplored by the botanist, have rewarded his labours by yielding up hundreds of plants of the most useful or beautiful description, from the mighty monarch of the Californian forest—the Wellingtonia gigantea, to those exquisitely beautiful Orchids which have been introduced of late years in such numbers from the eastern and western hemispheres. These and other advances which have been made, especially the wide extension of the most approved methods of cultivating almost every variety of fruit, flower, and culinary vegetable, are mainly due to the influence of horticultural exhibitions, which, on a comprehensive scale, were first brought into existence by that Society which we ought all to look upon as the parent of horticulture as it exists in this country—the Royal Horticultural Society of London. The example set by the Royal Horticultural Society has spread far and wide to almost every provincial town and village in the kingdom, until horticultural gatherings have become, especially in many of the great manufacturing centres, equal as examples or exponents of the horticulture of the present day to the great exhibitions held in London; and the numbers of people who attend at and profit by them greatly exceed those who attend the exhibitions held in the metropolis.

In looking at the actual state of anything, we are apt to lose sight of the means by which such a state has been brought about. As I have previously stated, the general prosperity of the country for a considerable time has favoured the advancement of horticulture. The introduction of cheap glass, and the application of the hot-water system to the heating of plant structures, have had an influence on the progress that has been made. The discoveries in chemistry, as given to the world in our time by Liebig, Lawes, and others, have opened up a wide field for the consideration of the horticulturist, and have materially influenced and assisted his progress. The general diffusion of knowledge in horticultural matters through the horticultural press, and innumerable cultural treatises on special subjects—this, with a better knowledge of vegetable physiology and the geographical distribution of plants, has placed the gardeners of the present day in a position to make great progress; and I think it is not too much to say they have shown themselves worthy of the opportunity. It would ill become us by unduly lauding the horticultural progress of the present day, to reflect on what has been achieved by those who have preceded us. Such men as a Speechly, Knight, and numbers of others, would be an honour to the profession at the present or any future day; but it is in the great numbers of the present day who are able to accomplish something meritorious wherein the decided advance has been made; for with the single exception of landscape gardening, which was well known and carried out in times past, all other branches of gardening have made great progress. But when we have awarded to each of the causes named its fair share in promoting the present condition of horticulture, still it is to the influence of horticultural exhibitions that we must look for the great progress that has been made; it is there that hundreds of people possessing means first acquire those tastes which lead them to become votaries at the shrine of Flora. It is there that the experienced gardener can always see something better grown than hitherto, and which awakens in him a determination to equal or exceed that which is before him. It is there that the young men of the present day, and in whose hands will rest the horticultural reputation of this kingdom when they who bear the burthen and the toil of the present time shall have been removed from the scene of their labours—it is there that both old and young can compare notes, exchange ideas, and observe the improvements in culture, the improvements in the thousand-and-one subjects of the vege-

table kingdom which come under the charge of the gardener. It is there that the gardener will always see something calculated to remove those little conceits which we all, perhaps, entertain for our own performances, and where all in common can contemplate the most beautiful of Nature's productions.

I have noticed that there is a danger of exhibitions in some places becoming mere floral displays of a few specialities. As such, they are all that could be desired; but, seen from a more essential point of view, they are a great mistake. There is one thing that ought never to be lost sight of: that although it is desirable to render them sufficiently attractive for the greatest number, still it is of equal or greater importance to render them thoroughly comprehensive by including all varieties of plants, flowers, and culinary vegetables that are worthy of cultivation. If these views are correct, it behoves every well-wisher of horticulture to assist by all the means in his power the encouragement and promotion of these exhibitions.—T. Baines, *Summerfield, Bowdon, Manchester.*

DOUBLE PELARGONIUMS.

I shall be glad to know if any one is trying this new class of Pelargoniums for bedding purposes this season, and with what success.

Gloire de Nancy was well spoken of by the authorities at Chiswick last year, but now that we have dwarfer kinds, that variety must necessarily give way. I have a long line of the Double Tom Thumb (Madame Rose Charmeux), and am greatly pleased with it. I consider it even dwarfer than the old Tom Thumb, and much more free-blooming; its colour, however, is not so bright, but, nevertheless, very rich and effective. It is, in fact, a very good semi-double—for it is by no means a full double—counterpart of its popular namesake. Its blossoms, as in the other double kinds, instead of falling, dry on the truss, and require picking over every day or two. Finally, they do not suffer in the least through being battered about by the rain.

A few days ago I was told by an excellent authority that by judiciously thinning-out the flower buds forming the trusses of double Pelargoniums, the blooms become much larger, and the heads of flower attain Hydrangea-like proportions; this is quite feasible, and I have put aside a plant of each kind to experiment upon.—Gulielmus.

GARDEN versus SHOW ROSES.

The Rev. W. F. Radclyffe has rendered an essential service to rosarians in drawing a broad thick line between "beautiful Roses for garden ornamentation" and "exhibition Roses." Our writers on the Rose have of late been playing too much on one string—treating the Rose as if exhibition were the sole aim of cultivators. Now, I should estimate that not more than 1 per cent. of Rose-lovers are exhibitors, the 99 per cent. valuing the Rose for its beauty on the tree in the garden. It is well known that many of the flowers seen at the shows are brought into that state by an amount of labour and garden disfigurement, by gross feeding and shading, that few but exhibitors would submit to. If the non-exhibitor should choose his varieties from the stands at the flower shows and expect to get such Roses, or anything like them without the aforesaid appliances, he would be wofully disappointed. Experienced rosarians are well aware of this. Such generally choose their Roses from the trees in the Rose nurseries, or in the gardens of their friends. Further, it would be an essential aid to non-exhibitors if Rose-growers would mark in their catalogues such kinds as are only exhibition Roses.—William Paul, *Paul's Nurseries, Waltham Cross, N.*

THRIPS ON AZALEAS.

Having read Mr. Baker's paper on the Azalea, I felt rather disappointed to find that he said nothing about the insects which infest it, and keeping it free from these I think is one of the greatest points in Azalea culture; for where is there a plant that is more subject to thrips?

When I came to my present situation, which was in September, I found about four dozen Azaleas in a new vinery, but what objects they were—young Vines and all! I found Gishurst compound just on the shelf, and I soon sent off for some tobacco. I dissolved the compound as directed—viz., 4 ozs. to the gallon, in a large tub; I then dipped the plants in it, and was careful to wet every part of them. I then syringed the Vines with the same solution between three and four o'clock; in the evening I well filled the house with smoke. On the third day I repeated both processes again, and am happy to say they produced a complete cure. I smoked on each occasion as long as we could stand in it—about five minutes at a time. The plants were kept in the same house for perhaps two months afterwards, and then put in a large airy conservatory. Just as they begin to swell their buds for blooming I apply Standen's Gardener's Friend, which has done wonders with them. It has enabled them to produce a fair quantity of bloom; the flowers were very large, considering that there was originally scarcely a leaf on the plants which was not eaten all over by thrips. After blooming, the plants were replaced in the same house where I found them at first, and I treated them just as Mr. Baker recommends, with the exception that I use Standen's Friend once a-week.

I had better state that the treatment described must not be carried out until the plants have completed their growth, as they will be likely to cast their buds, nor when they are making it, otherwise the young shoots will be killed.—J. T.

MESSRS. BARR & SUG..EN'S TRIAL GROUNDS.

There is a process technically known as "rogueing," which is indispensable to the preservation of true stocks of flowers and vegetables to be perpetuated by seed, and it cannot be carried out too severely in order to attain the desired result; for even with the greatest of care exercised in seed-saving, and where the seed-bearing plants are grown in large breadths, there is always a danger of cross-fertilisation, and the appearance of plants varying from the form to be preserved. The circumstances which have given rise to variations from a certain type may give rise to other variations either of advancement or retrogression, and it is the object of rogueing to remove all plants having the latter tendency, whilst it is the interest of the seed-grower to preserve all having the former. With this view, whenever anything promising is discovered, it is marked and taken care of; when, on the other hand, a plant does not come up to the standard, though it is still the interest of the seed-grower, and more so that of the seed-buyer, that it should be removed, this is not always done, or if done not with sufficient care, and the result is deterioration. Many good varieties have doubtless disappeared from this cause; at the same time, there is no question that with every care it is a difficult matter to preserve for a number of years true stocks, especially of such plants as Broccoli and Cabbage, which are so apt to sport and intermix. However great the disappointment which is caused by plants raised from seeds not answering, in consequence of want of care in seed-saving, to the characters which are ascribed to them, it is still worse to find that out of some fifty continental varieties not more than six or seven are distinct from each other. For this there can be no excuse; it can only arise from gross carelessness or something worse. Seed lists are already far too much cumbered with varieties which are either worthless, or so little distinct as not to be worth preserving, without increasing the multitude of names by the addition of those indicating a difference where none exists. The Royal Horticultural Society, by their trials from time to time at Chiswick, have done much good by ascertaining the comparative merits both of flowers and vegetables; and the trials being carried out with great care and strict impartiality, the results deserve, and have been received with confidence. Extensive, however, as the garden at Chiswick is—and that is the proper place to carry out trials such as those referred to—there are so many subjects all claiming attention, that it is not possible, and would not be possible even with a much larger staff, to experiment in every branch year after year; while, therefore, one mass of confusion is being cleared away another is accumulating, ready in its turn to be searched, sifted, and put in order. Seedsmen, however, are anxious to know the merits of what they sell to their customers, who are frequently, and with good reason, dissatisfied with what they receive, and accordingly some of them have trial grounds of their own to test the quality of the seeds supplied to them by growers, and to ascertain the merits of novelties. One such trial ground we visited three weeks ago—that of Mr. Barr, of King Street, Covent Garden, who has taken for the purpose three acres of ground at Tooting, and some remarks on the annual and other flowers, as seen there, may be useful. Besides these, he is testing Lettuces, Peas, Potatoes, and many other things. So numerous, indeed, are the subjects grown, that only a small proportion of the whole can be noticed here.

Taking the floral department first, among the Viscarias cardinalis is pre-eminent from the brilliancy of its colour, far surpassing the older V. oculata, pretty as it is, and being without doubt one of the most effective of all annuals. The new variety of oculata called perfecta nana, with lilac and white flowers, is a neat dwarf kind; a variety of Viscaria, or Agrostemma, cœlirosa, with rose-coloured flowers having a brighter eye and presenting a fringed appearance in consequence of the petals being variously indented, was also pleasing, but it was largely mixed with V. oculata. Of Candytufts that called Very Dwarf White answered well to its description, not exceeding 6 or 7 inches high when in flower, and being of very close habit, with neatly cut leaves. A continental novelty named the New Dwarf Lilac appeared to be a mixture of the ordinary purple and lilac; and several of the white Candytufts under various names scarcely differed from each other. Not unlike Viscaria cardinalis, and rivalling it in brightness of colour, is the splendid scarlet Linum grandiflorum. Linum narbonense, with pale blue flowers; L. Lorei, which Mr. Barr describes as having been covered with flowers of an intense blue throughout May and June; L. Lewisii variegatum, L. perenne, and perenne roseum, the last with rosy lilac flowers, are also very desirable Flaxes. Mr. Barr prefers sowing the seed of these perennial kinds in autumn. Of those beautiful everlastings, the Rhodanthes, R. Manglesii is so well known that it requires no recommendation; and there is a variety, R. Manglesii major, which, though probably of somewhat stronger growth, as grown here did not materially differ from the older kind; but R. maculata and R. maculata alba, the latter a beautiful white everlasting, may be confidently recommended to every one. Instead of coddling them in pots, Mr. Barr recommends sowing the seed in prepared beds in the open ground any time after the middle of April, either where they are to remain for flowering, or to be transplanted. Atrosanguinea, darker in colour, is also very pretty, and is not so robust in growth as maculata. Another everlasting which can be recommended is the golden-flowered Helichrysum brachyrhynchium. There were several others of the same family, but not in flower, as also of Xeranthemums. The latter are sown in autumn to stand the winter, and are then much finer than those from seed sown in spriog. Waitzia aurea is a rather new and pretty everlasting, but it appeared anything but flourishing. Acroclinium roseum, one of the prettiest of everlastings, must not be omitted.

The Dianthus family are grown in considerable numbers, and the older varieties of the Indian Pink appear destined to give place to those of Heddewigii, japonicus, &c., which are much superior in size and brilliancy of colour. Those who do not possess the means of wintering bedding plants, might with the different kinds of Dianthus alone form a good display, especially if the seed were sown in the previous autumn, and the plants transplanted to the beds, for then the flowers are produced earlier in the season, and are much larger than those from plants sown in spring. Among the showieet were the varieties of imperialis, laciniatus, characterised by their much-cut petals, and Heddewigii. Of the last, the subvarieties atropurpureus and striatus were very pretty, so were some of the double forms, and D. dentosus hybridus, purple and lilac, with a regularly marked centre. Dianthus deltoides, red and white, is a pretty plant for rockwork. The various forms of Dianthuses which have been recently introduced deserve more attention than they have hitherto received. Some of them are of exquisite beauty, others are most brilliant in colour, and they offer the advantage of being easily raised from seeds, and grown in any good garden ground.

Among Campanulas, Lorei and Lorei alba, pentagonia and pentagonia alba, and strigosa, were the most effective; and there were several varieties of Chrysanthemum tricolor, which from the size of their flowers and diversity of colouring, are amongst the most showy of hardy annuals. Of these aureum, Burridgeanum, atrococcineum, atropurpureum, and venustum, are very effective. Of Clarkias, the single and double integripetala varieties, rosy crimson or white, integripetala marginata, and the Tom Thumb varieties of dwarfer free-flowering habit, are good. Another good annual bearing considerable resemblance to the Clarkias, is Eucharidium grandiflorum, of which there are white and rose-coloured sorts. The following are also very desirable—viz., Eutoca viscida and Wrangeliana, blue; Fenzlia dianthiflora, very pretty, but apt to fail unless the seed bed be kept damp till the seedlings appear; Palava flexuosa, with beautiful pink flowers having a dark eye; Oxalis valdiviana, with bright yellow flowers, forming a good associate for Oxalis rosea—the last two are recent introductions by Messrs. Veitch, and the Palava will be a pretty plant for pot culture as well as for beds; Gilia laciniata, dwarfer than achillæfolia, lavender blue; Shortia californica, yellow, and free-flowering, especially if sown in autumn; Kaulfussia amelloides, and amelloides atroviolacea, both with fine blue flowers, but the latter preferable; Lasthenia californica, good for spring flowering, but not so desirable for summer; Leptosiphon androsaceus and densiflorus, of both of which there are lilac and white varieties; luteus, yellow, very dwarf and free-flowering; and hybridus, of various colours; Centranthus macrosiphon nanus, a pleasing little rose-coloured-flowered plant; Erysimum arkansanum, sulphur-coloured; E. Peroffskianum, well known; Calliopsis Drummondi and coronata; Sphenogyne speciosa aurea and sulphurea; Schizanthus oculatus atropurpureus and grandiflorus albus, the one purple, the other white; double Sanvitalia procumbens; Zinnia mexicana, yellow flushed with orange, dwarf and spreading, and besides this a number of other varieties will shortly be in flower. Lupines, Salvias, Statices, Daturas, Petunias; Ten-week, Intermediate, and Brompton Stocks; and Balsams are grown in numbers, but for the most part were not in bloom. There are also collections of different kinds of Salpiglossis, Sweet Williams, new dwarf Scabious, which is useful for bouquets, and of French and African Marigolds. Of the French Marigolds, the Superior Striped Single is very distinct. In a collection of Poppies, only a few of which were in bloom, Marseilles splendens was large and very fine.

Mr. Barr justly complains of the same plant being frequently supplied under different names, as well as of stocks of seeds being so mixed that they cannot be depended upon. An an instance of the former evil, in a large collection of Lathyrus, all supplied by one firm, he has found the plants under the names of Lathyrus azureus, hybridus azureus, and magellanicus, the same; L. Clymenum and tingitanus striatus the same; tingitanus and mauritanicus the same; and Napoleoneneis and species nova so like the preceding, as not to be worth distinguishing. As an instance of the latter evil, out of a bed of 224 Tropæolums, only 153 were true, and 71 were a mixture of various other kinds. Of the Tom Thumb varieties, cœruleum roseum, of which there was a fine bed, is quite distinct from any other in colour, and is very free-flowering, whilst of scarlet kinds, Pyramidal Tom Thumb, and Lilli Schmidt, are excellent dwarf scarlet varieties. Among very dark sorts, King Theodore was conspicuous. Of Antirrhinums, several varieties are grown, but the Tom Thumb race of various colours, the plant bushy and a foot high, was by far the most desirable for beds. One plant which we noticed formed quite a bouquet of flowers. Geum atrosanguineum and coccineum superbum, apparently the same, are good plants for rockwork; so, too, are the pink-flowered Crucianella stylosa, which continues in bloom a long time, and Tunica saxifraga. Gaura Lindheimeri, with white flowers and a pink calyx; Œnothera macrantha, with large yellow flowers; and Statice pseudo-armeria, the latter producing rosettes of rose-coloured flowers, are also good border plants.

Of plants grown for the ornamental character of their foliage there was a quantity of Golden Feather Pyrethrum, which is even more golden in its hue in winter and spring than in summer; but the object being to save seed, the flower stalks had not been cut over, as would be the case if it were grown in a bed; but it is almost unnecessary to mention a plant like this, for it is now to be found in most suburban gardens, and scarcely anything can be neater or more graceful as an edging. Solanums for subtropical effect had just been planted out, but small as they were, the characters of some of them, as in S. pyracanthum, citrulifolium, marginatum, glaucophyllum, and Balbisii were becoming apparent. Several of the Artemisias, as A. gracilis, A annua, and A. argentea, from their graceful elegantly divided foliage are suitable for the same purpose as the preceding; and Cosmos atropurpureus and bipinnatus, plants belonging to the same natural order, might even be employed for table decoration.

Mesembryanthemums were not in flower, with the exception of tricolor, rose-coloured with a dark disk, nor were the Martynias, which are here treated as half-hardy annuals; but the orange and white-flowered Thunbergias were, the plants having been raised under glass and planted out in June.

Among those showy but rather coarse annuals, the Eschscholtzias, Mr. Barr pointed out a new continental kind sent out under the name of Eschscholtzia crocea rosea, not one flower out of a thousand of which he considered came within 50 per cent of the description given. How this might be we could not say, for the bed had been "rogued" out in the morn-

ing, as many plants having been taken out as those left, the flowers of which, though certainly pretty enough, fell considerably short of the description, being of a creamy rose colour in the interior when open, and the outside of the petals rose-coloured. Linaria bipartita striata, another novelty, he states proved one-third purple like L. bipartita, one-third white, and the remainder were striped, some delicately, some more strongly. Between Centaurea pseudo-depressa, blue with a reddish centre, and Centaurea depressa no difference could be perceived here, except that the latter had somewhat larger flower heads.

Of Lettuces the samples were very numerous and interesting; and though several of them had commenced to run to seed, that circumstance could not be regretted, for it showed what kinds did not possess that undesirable tendency. Of the Cabbage Lettuces Tom Thumb stands the summer well, and would probably be a good frame Lettuce. The Malta, known also as the Drumhead, and the Neapolitan, the one light, the other of a dark green, are two of the best of summer Cabbage Lettuces. Bossin is remarkable for its great size, and is a large crisp-leaved form of the Silesian or White Batavian. The Brown Batavian is also a solid kind resembling the Malta, but the brownness of its leaves is objectionable for the salad bowl when green-leaved kinds are to be had. Longstander forms a large heart, and is slow in running to seed. Imperial is also a large firm-hearted Lettuce having the same property. Cos Lettuces are even more numerous than the Cabbage varieties, the most prominent for its quality being the Paris White Cos, generally considered the finest of all the summer Cos Lettuces. The names of the varieties or selections of it are too numerous to repeat here, and in some instances they are improvements. From the hooded character of its leaves it blanches very well without tying, but the London market gardeners generally tie it two or three days before sending it to market, more as a matter of form to please the Londoners than anything else. Covent Garden Giant Green Cos is similar to the large forms of the preceding, an excellent variety, differing from it in the leaves being greener. London White Cos is a narrow-leaved Lettuce, which turns in quickly, and is a favourite with the London market gardeners for the first crop, but is not to be compared for quality to the Paris Cos. Moorpark, a large variety closely allied to the latter, is very late in running to seed, and is altogether one of the best of the hardy Cos Lettuces. Of the black-seeded Bath or Brown Cos there are several forms, but many consider the old one the best of all. Its great recommendation is its hardiness, but when tied up it blanches well, and has a grateful nutty flavour. Wheeler's Imperial, Duckett's Perfection, Holme Park, Bearfield's Hardiest (white-seeded), Geldring's Bath Cos, and Sugarloaf are good selections of the Bath Cos, slow in running to seed, and blanching well. Sugarloaf is somewhat lighter in colour and narrower in the leaf than the others. It is an excellent variety.

Time would not allow of an examination of the Peas and other vegetables; but it may be mentioned that Laxton's Supreme Pea fully justified the high character given of it in these columns, the pods, notwithstanding the previous dry weather, being very full, and the Peas large. There was also a very prolific Longpod Bean and a collection of Beets, some ornamental by their foliage, others grown for culinary purposes, and to which the test of baking should be applied. Of the former, Henderson's Dwarf Waterloo and the Crimson-leaved were two of the best, the foliage being highly coloured and not coarse.

Among plants deserving of cultivation for their fragrance Matthiola bicornis with pale lilac flowers deserves especial mention for its delicious fragrance in the evening; and Schizopetalon Walkeri, with white flowers, is also possessed of the same property, though in a less degree. Lilium longiflorum Liu-Kiu, a superb Lily, is also highly scented, and has very large flowers.

SOIL FOR GRAPE VINES.

Mr. Cramb's paper, read at the Manchester Congress, and printed by you in page 96, is valuable as recording an observed fact—namely, that Grapes succeed in soils of the old red sandstone, but fail in magnesian limestone. I wish Mr. Cramb had contented himself with this short statement, and not added that "the caustic property of the lime has worked all the mischief, and that the nearer it approaches the state of carbonate, the more fatal its effect."

Now, in the first place, lime in a caustic state does not exist in nature. It is made caustic only by an artificial process. Secondly, carbonate of lime, or chalk, so far from being more fatal in its effects than caustic lime, is perfectly mild and harmless. It is well known that some of the best vineyards in France are on calcareous soil. From this I should infer that any injury which Vines receive from magnesian limestone must be attributed to the magnesia rather than to the lime.—G. S.

ROYAL BOTANIC SOCIETY.

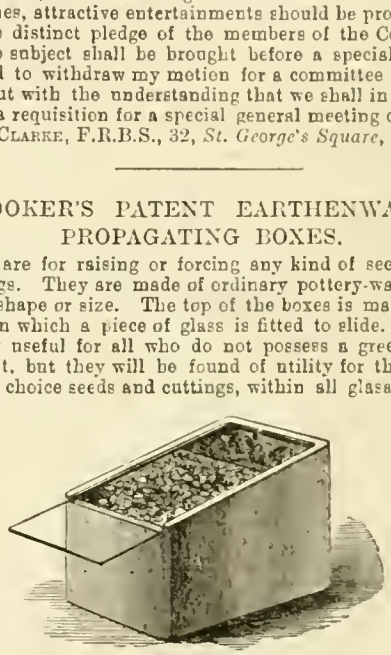
I was one of the very few who did honour to the birthday of Linnæus to-day (August 10th), by attending the anniversary meeting, and I beg your permission to state to the large body of Fellows absent, what assuredly will not be published otherwise.

Some of the Fellows perceived from the report the consequences of continuous maladministration—the falling-off on the subscriptions from £3,558 to £3,196, on the exhibition receipts from £3,100 to £2,827; the increase of the liabilities; and the diminution in the reproductive expenditure. Some comments were made on the delay, year after year, in completing the conservatory, objecting to the attempt to carry out a paltry addition by voluntary subscriptions, when it is desirable the whole work should be at once carried out by raising the amount on loan. The memorable "Special Fête" or "Reception" by H.R.H. the Prince of Teck was not forgotten, nor the way in which, by bad arrangements, the members of the Royal Family were mobbed, and it was urged that instead of a renewal of such scenes, attractive entertainments should be provided.

On the distinct pledge of the members of the Council that the whole subject shall be brought before a special council, I consented to withdraw my motion for a committee of investigation, but with the understanding that we shall in the spring draw up a requisition for a special general meeting of Fellows. —Hyde Clarke, F.R.B.S., 32, *St. George's Square, S.W.*

LOOKER'S PATENT EARTHENWARE PROPAGATING BOXES.

These are for raising or forcing any kind of seeds, plants, or cuttings. They are made of ordinary pottery-ware, of any required shape or size. The top of the boxes is made slightly sloping, in which a piece of glass is fitted to slide. They are especially useful for all who do not possess a greenhouse or forcing-pit, but they will be found of utility for the separate growth of choice seeds and cuttings, within all glass buildings.



For propagating in rooms by window-gardeners, they will be particularly serviceable. The prices do not increase in proportion to the increase of size. The air is let in at the top and is easily regulated. The glass if broken can be replaced at about a sixth of the cost (or even less), of a new bell-glass. The rainfall or other moisture cannot enter the box.

PROPAGATING THE CARNATION AND PICOTEE.

The following remarks are intended more for the amateur than the professional gardener. There are two modes of propagation—by layers and by seed. Layering is performed at the end of July or early in August. The shoot intended to be layered should have the leaves near its base removed; then make an incision with a knife from a joint in an upward direction. Many gardeners make it a rule to shear off the points of the leaves, but doing so I consider is merely following a method, and is unnecessary for the well-doing of the future plant. Soil consisting of three-fourths of good turfy loam and one-fourth of well-decayed manure, with a fair dash of silver sand, should be placed round the plants for the shoots to be pegged down upon. Keep the tongue or incision open,

before covering with the soil, so that the roots may be freely emitted. Watering must be resorted to occasionally during dry weather, till the layers are well rooted.

By the beginning of September the layers will be ready for removal, and should be carefully lifted and planted in a dry border, well drained, and if possible facing the south or south-west. Any good garden soil will suit them; but if some loam and manure be applied to the border, the application will repay the labour, &c. Wireworms must be diligently looked after when disturbing the soil at any time, as these pests often destroy many plants.

On the approach of winter, and before the frost becomes too severe, mulching with short litter to protect the plants will greatly assist them.

In propagating by seeds, they should be sown during the first week in May, in some fine soil in pans well-drained, and placed in a light cool frame. When the plants are large enough they should be planted singly out in 3-inch pots. Well-drained soil, such as recommended for layers, will do for this potting. Replace the plants in the frame for a short time to take hold of the soil and make a few roots; afterwards transfer them to an open border with a northern aspect, plunging the pots in ashes. When the pots become full of roots the plants may be planted where they are intended to bloom, protecting them during the winter in the same way as plants from layers.—Henry C. Ogle, *Welwyn.*

THE FINDERNE AND OTHER MEMORIAL FLOWERS.

The Journal of Horticulture for July 29th contains an interesting paper, entitled "Finderne Flowers," which has attracted much notice here, where several of us are cultivators of "memorial flowers."

Burke's account is a remarkable one, and having spent my early years near Needwood Forest, and within sight of Tutbury Castle, the story has a peculiar charm. Mickleover, too, and Derby are familiar names; but that which induces me to write to you on this subject is the mention of "Garden flowers grown wild, brought by Sir Geoffrey from the Holy Land," which cannot be exterminated. We should be glad to know the names of these faithful flowers, sown or set by the good Sir Geoffrey. Perhaps some of your readers at Mickleover or Derby may through the medium of your Journal be able to furnish them, and thereby help us to discover whether or no amongst our Syrian treasures we possess the "Finderne Flowers."

In 1852 my sons returned from a tour through Syria, and brought me dried specimens of flowers and seeds from the Holy Land. These seeds were sown early in the spring of 1853 in our garden at Liscard, in Cheshire, and proved to be Malva sylvestris, Medicago maculata, Convolvulus arvensis, Anagallis arvensis, Echium vulgare, Wallflowers, and a small Gnaphalium. The Wallflowers and Medicago flourished for years until we left Cheshire for the neighbourhood of London. This spring I again received a packet of seeds from the Holy Land, which were immediately committed to a prepared border; they have come up well, despite of the dry season, and are healthy, though they have not yet flowered. Wallflowers, Marigold, Trefoil, Larkspur, Mallow, Coreopsis, and a small plant I cannot yet identify—probably a Pimpernel, are now my mementos of the sacred soil whence they came, and also of the love which makes the smallest gift a perennial treasure.—Anna Harrison.

SUPPLY FROM A KITCHEN GARDEN.

I am a gardener with a small kitchen garden. The area is 52 poles; the family which I am expected to supply are eleven in number, besides company. Through June and part of July I have had enough, but lately, owing to my garden being entirely surrounded by trees which have drunk up all the moisture, my vegetables are smaller than they were a fortnight ago. Perhaps I may as well mention that the garden contains 354 fruit and other deciduous trees from 3 to 20 feet high: therefore I find that if they were distributed regularly they would make a very nice plantation at about 5 square yards for each tree, which I consider would be much too close to thrive.

What I want to know is, Is it possible for me to satisfy the wants of the family? I am always in trouble concerning my vegetables; I cannot satisfy my master, the cook, nor myself. Had I better give it up in despair, and seek a more comfortable situation, for I cannot perceive anything more comfortless than my present situation?—A Persevering Gardener.

[We cannot see how in such a limited space you can keep up a regular succession of vegetables if used at all plentifully. We think your case is just one of those referred to by "R. F.," in which it is impossible that any party can be satisfied. It is a mistake altogether to have vegetable ground encumbered with trees, as the shade in general prevents the free healthy growth of the vegetables, besides extracting, as you say, the moisture from the soil.]

RUBUS LEUCODERMIS.

In addition to the novel appearance presented by this plant through its wood being seemingly whitewashed, it is valuable as a fruit-producing shrub. My plant has occupied the same spot for a number of years without protection; it is planted on the edge of a coach-drive, at the back of which are Conifers and various shrubs, and, tied to a stout stake, it has now attained a height of 12 feet. From the base upwards it is covered with branches bearing bright orange fruit of the size of the common Blackberry, which hang in the greatest profusion. These berries are juicy and of a rich flavour, somewhat between that of the Melon and Pine Apple, and are pronounced "excellent" by the many persons who have partaken of them within the past fortnight.—Gulielmus.

THE LATE MR. WHITING.

With regret I read in the Journal of the demise of Mr. Whiting, having been acquainted with him for more than thirty years. He was, if I remember aright, a native of Weobley, in Herefordshire, and commenced his gardening career at Garnston Park, near Weobley, the seat of Captain Peploe. There can be no question as to Mr. Whiting standing high as a horticulturist, and deservedly so. While he was at Kipling, I have no hesitation in saying that I saw some of the finest Grapes that were ever grown, especially the Canon Hall Muscats: some of them, I believe, were exhibited at one of the Horticultural Society's meetings, and for which he received a medal.

After he left Kipling he went to the Duke of Leeds, at Hornby Castle, Yorkshire, but I believe he did not remain there very long. Soon after that he went to Deepdene, and there he has had a long and honourable career. He has gone to his rest lamented by a large circle of sorrowing friends.—M. H.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

Griffinia bryades (Wood Griffinia). *Nat. ord.*, Amaryllidaceæ. *Linn.*, Hexandria Monogynia.—A native of the seashore forests near Rio de Janeiro, in Brazil. Flowers blue-lilac with white centre.—(*Bot. Mag.*, *t.* 5786.)

Phaleria laurifolia (Laurel-leaved Phaleria). *Nat. ord.*, Thymelaceæ. *Linn.*, Tetrandria Monogynia.—An evergreen stove shrub. Native of Timor. Flowers yellowish white, and very fragrant—(*Ibid.*, *t.* 5787.)

Steriphoma paradoxum (Paradoxical Steriphoma). *Nat. ord.*, Capparidaceæ. *Linn.*, Octandria Monogynia.—Native of the Caraccas and New Grenada. It is a stove shrub. Flowers orange and pale yellow; stamens very long and pale yellow. (*Ibid.*, *t.* 5788.)

Aphelandra acutifolia (Pointed-leaved Aphelandra). *Nat. ord.*, Acanthaceæ. *Linn.*, Didynamia Gymnospermia.—Native of many parts of South America. Imported by Messrs. Veitch. Flowers vermilion.—(*Ibid.*, *t.* 5789.)

Myrcia amplexicaulis (Stem-clasping-leaved Myrcia). *Nat. ord.*, Myrtaceæ. *Linn.*, Icosandria Monogynia.—A stove evergreen shrub. Native of Rio de Janeiro. Flowers white.—(*Ibid.*, *t.* 5790.)

Begonia Sedeni.—"We learn from the Messrs. Veitch and Sons, of Chelsea, who are its fortunate raisers, that it was obtained by crossing B. boliviensis with an unnamed species not yet offered for sale. It was raised in 1868, and was exhibited on June 2nd of the present year at South Kensington, where it obtained a first-class medal and certificate; and on June 30th at the Regent's Park, where the highest honours were also awarded to it. We believe that this new Begonia will prove one of the most ornamental and valuable of our decorative plants, for not only are its blossoms large, abundant, and highly coloured, but its habit is in every way irreproachable; and as it thrives well

—so we are informed on the best authority—in a temperature of 55° to 60°, which suits B. boliviensis, there can be no difficulty on the score of cultivation.

"Begonia Sedeni is a softwooded plant, with erect hairy purplish red stems. The leaves are obliquely ovate-lanceolate, tapered to a long point, duplicately serrate, of a dull green, with pale-coloured veins, and red hairs which show as a reddish fringe at the edge. The cymes are three-flowered, axillary, on reddish peduncles 4 inches long, bearing a pair of bluntly-ovate bracts subtending the three pedicels, which are about 1½ inch long. The central or larger flower is male, and has two ovate sepaline divisions an inch long, and two oblong ovate petaline ones 1½ inch long, while in the centre is a tuft of yellow stamens. The two lateral flowers are female, somewhat smaller, with five oblong segments, and three contorted yellow stigmas, surmounting a three-winged ovary, which has one of the wings prolonged. It is most floriferous, the young plants, when only 6 inches high, developing blossoms freely."—(*Florist and Pomologist*, 3rd s., ii., 169.)

COMBE ABBEY.

The Seat of the Earl of Craven.

This fine place, which has taken such a high position in the gardening world by the splendid fruit which has been exhibited by Mr. Miller, occupies a position in the midst of that level tract of country which surrounds the ancient and interesting city of Coventry. The visitor after leaving Coventry finds himself in a district purely rural in all its features, corn fields waving with the breeze alternating with pastures, with here and there a plantation of well-grown trees, showing that the fertility he perceives in the cultivated grounds results from natural influences as well as from the industry of the occupiers. Good roads bounded by hedges carry him in a south-westerly direction until he is told he has travelled upwards of four miles, and this without encountering any eminences worth mentioning. He then finds indications of his being in the immediate neighbourhood of the mansion of some wealthy gentleman; in fact, tokens of that have been visible before in the shape of schools, extensive workshops, &c. By-and-by a glimpse of the mansion is obtained on the left, and here, it must be confessed, the first impression is not good; the expectation of meeting with some monastic building, altered only internally to meet the requirements of its present occupants, is not fulfilled, neither is the site such as in most cases was chosen for religious edifices. A low secluded position in a hilly district was common enough, perhaps more so than an elevated one; but a low place in a flat neighbourhood presents but little that is enviable. On a nearer approach, however, it has a better appearance; for the eye on discerning the base of the building perceives that the position is only on a level with the ground in the neighbourhood, and the trees and rich pasture land in the extensive park attract the attention elsewhere, and confirm in some degree our notion of the prudence of the monks of old in pitching their abode where the produce of the earth would be at all times bountiful. The mansion, though not outwardly attractive, is large, and I believe fitted up with every luxury and convenience that can be desired.

In giving a rough idea of the features of this remarkable place, it may be said the carriage front of the mansion faces west, or rather the main entrance through the park is from that direction, while dressed grounds occupy the other three sides. The kitchen garden and the forcing houses are a short distance to the east of the mansion, but united to it by dressed grounds, shrubberies, &c., while extensive pleasure grounds also extend to the north and north-west sides, where a large piece of ornamental water forms the boundary between them and the park. Pleasure grounds, including a very fine croquet ground, also stretch from the mansion along the southern side of the kitchen garden, where the latter is bounded by some trees of older date, screening and sheltering the whole from the violence of the south-westerly gales. Large trees also serve the same purpose on the east and north sides; in fact, it may be said the whole is nearly surrounded by trees, excepting that a portion of the pleasure ground on one side juts out into the park, and is, consequently, more open. It must not be inferred that the shade and other influences of the old trees referred to extend where not wanted; on the contrary, they are at a sufficient distance to cause no injury to the more delicate objects they protect, while they must be of infinite service, and give the whole a clothed and sheltered appearance.

By the foregoing it will be seen that the kitchen garden is at a convenient distance from the mansion, being only separated from it by a breadth of dressed ground and shrubbery. With the exception of the large trees and some old shrubs near the mansion, the whole has the stamp of quite a new place; and so, in fact, it is. A small garden of no great importance occupied a part of the site of the new one, but that was done away with, and the present garden formed, which has in point of excellence few equals anywhere. It is of an oblong shape being longest on the east and west sides. The principal entrance is in the centre of the west end, where a singularly constructed edifice forms the gateway. Possibly this may be in harmony with some other things, but it differs from all similar openings. By it we enter upon a fine broad walk, 12 or 16 feet wide, leading straight to the east end, where Mr. Miller's cottage is, and which with some other buildings forms a portion of the east-end wall of the garden. A fine range of vineries and other forcing houses occupies the whole, or nearly so, of the north wall, and at the east end of the garden near Mr. Miller's house is a series of houses running north and south, their ends or entrances facing the broad central walk alluded to. Some of these houses stand back to back—that is, one faces east and its fellow west—and are devoted to various purposes. One house was full of flowering plants, and others were employed in forwarding plants for succession, or contained those whose flowering was over. There was a good crop of Melons in a house, which, no doubt, did much service in winter. The two structures facing the west entrance were of a somewhat imposing appearance. Peach houses, or what some call glazed walls, the glass being as high as the wall, and about 6 feet or more from it, with a sort of span-roof of an ornamental kind, presented a striking appearance from the entrance. Very fine Peaches were ripening in one of them at the time of my visit, but Mr. Miller said the crop of the later Peaches was not nearly what he expected; he, like many others, trusting to the trees setting their fruit without artificial heat, and this few have done in the present year. As it was the crop was good for the season, and the early kinds had produced most abundantly; but as your readers are likely to be most interested in hearing of Mr. Miller's Grapes, I shall at once advert to these.

On taking a cursory survey of the vineries occupying the north wall, the external appearance is not very different from that of similar houses elsewhere, only they are larger and more lofty than many, have improved means of ventilation, and are glazed with somewhat larger squares of glass than are often met with, although not by any means remarkable in this respect. The heating is by hot water, with a smaller number of boilers than in many places, but not on the one-boiler system. The glass and painting seemed in excellent order, and external neatness prepared me for the sight which met my gaze on entering, for having seen samples of Mr. Miller's Grapes at the metropolitan shows, I was expecting to find a house but thinly cropped, as is frequently the case where show Grapes are the order of the day; on the contrary, the crop in all the houses was heavy, and had I witnessed such a crop under the care of a less experienced cultivator than Mr. Miller, I should have entertained grave doubts respecting the future; but as Mr. Miller says he has had several such crops from his Vines, I must take it for granted that the present crop will be followed by others of a like kind. The crop, not of one kind of Grape only, but of all, was most abundant; even that shy bearer, the Barbarossa [Gros Guillaume] had a plentiful supply of bunches on it, and these, as might be expected, were very large.

For the information of those who are anxious to know the details of Grape management at a place in which good fruit has been supplied every day during the last six years or more, I hope Mr. Miller will give us some further information than could be gleaned by a rather hasty visit; but I may here state that Mr. Miller is no advocate of giving bottom heat by artificial means; on the contrary, he condemns it, and having for so long furnished good Grapes all the year round, he has strong grounds for his views. Other matters have also to be taken into consideration in the production of good Grapes, and there is one on which, perhaps, more depends than on bottom heat to ensure fine well-grown fruit, and that is the character of the border, which in some cases is determined by circumstances over which the cultivator has little control; but Mr. Miller's borders have been formed entirely by himself, and with a result which is well known. Let us, however, speculate how far local circumstances may have aided judicious management in producing such results as those which have been achieved.

Taking a casual survey of the district, its appearance where

cultivated, and in some measure the character of its herbage when left to nature, or, in fact, we may say the weeds, I am led to the conclusion that one of the elements said to have an important influence on fertility is certainly not very abundant, and that is lime, or what the learned call calcareous matter. This material, which at one time was thought so essential in the cultivation of the Vine, has of late years been thought not so well of; in fact, it has been broadly hinted that many of the failures in Vine management may be traced to an undue proportion of it. Now, as most people are expected to make their Vine borders of the materials to be obtained at home, mixed or amended in some way, we may fairly conjecture that Mr. Miller's borders were in a great measure so composed. Although I have known the ingredients for a Vine border brought eighteen miles, yet generally it will be found that when a district consists of a soil naturally favourable to the growth of this fruit, it is much better than when an artificial mixture has to be prepared; in the latter case we have a poor chance of so evenly balancing the ingredients which compose it, as to constitute a whole capable of meeting all the requirements of the plant it is intended to support, and in the case of Vine borders I am inclined to think the lime or lime-rubbish mania has in many cases overrun its mark; certainly, to outward appearance, the soil which constitutes the kitchen garden at Combe Abbey is not overcharged with lime, and I concluded that the Vine border was not overdosed either. Assuming it to resemble in some degree that of the kitchen garden, I would regard it rather as a stiff loam than a too open one; at least, sand did not prevail to the extent it does in the rich deep soils which border many of our rivers, the Mersey for instance, the valley of which is composed in a great measure of a dark sandy soil of considerable fertility, but possibly less enduring than the soil at Combe Abbey; in fact, there seems by Mr. Miller's report to be great "staying" powers in the soil of which the Vine border is composed. Let us now take a peep into the inside, and judge for ourselves how far the border, and the management the Vines are subjected to, are in accordance with their wants.

The vineries, as already observed, are large, as far as height and width are concerned, and some of the most important seem devoted to Grape-growing only; others, as is often the case, have a bed inside, and Pines or plants are grown as well. In the latter case the roof is not so heavily covered with Vine foliage as where Grapes only are cultivated. Separate houses are devoted to Muscats and Lady Downe's, but most of the other varieties are more or less mixed, Black Hamburgh, of course, predominating. I must again remark, that in every instance the Vines were heavily cropped, certainly more so than I should have advised, and the bunches were at least one-third more numerous than in the generality of places where good Grapes are produced; yet Mr. Miller assured me they had been as heavily cropped every year, and with the same successful result. Even the Barbarossa was yielding such magnificent bunches that I refrain from making any suggestion as to their ultimate weight, in the hope I may learn it hereafter. Other Grapes were equally good. A noble house of Muscats was well worth seeing, and scarcely less interesting was one of Lady Downe's, which, however, I should like better to see in January than in July, but in the latter month it seemed all that could be desired, though in general it is not attractive as long as Hamburghs and similar varieties are to be had. The propriety, however, of having it in a house by itself was here manifest, and a healthy, clean foliage insured a good finish-off. Even the foliage in the early house was clean, and there was a plentiful supply of laterals in robust health, less juicy, perhaps, than those in the later house, but the foliage equally green. Of course the Black Hamburghs that were just coming on were the centre of attraction; bunches large and well-shouldered, with berries as large as would be convenient for those who had to eat them, were advancing fast to maturity. Occasionally a bunch of extraordinary size presented itself, one of those aptly described as all shoulder. This feature in an overgrown bunch of Black Hamburgh is, perhaps, too much admired, as indicating extraordinary vigour; but a more shapely bunch is certainly more agreeable to look upon, and there were plenty of such in the Grape houses at Combe; in fact, plenty of both kinds.

Other kinds of Grapes were also well represented, Mr. Miller having a partiality for a white one, not so much cultivated as it deserves to be—Foster's White Seedling, which has a prettily-shaped bunch, with globular rather than long berries, and in appearance ranks high as a white Grape, of course not so large as Trebbiano, or its synonyme The Child of Hale, but much superior in flavour. Trentham Black was also in good trim; but this Grape is not a general favourite elsewhere, although good where well managed. The Alicante and West's St. Peter's were also well grown, and what were equally interesting, were some good bunches of Red Frontignan—a Grape which, by the smallness of its bunches, many growers think spoils the appearance of their other productions. New kinds were also being tried, and I believe canes of Mrs. Pince's Black Muscat Grape were in bearing; but I forgot to inquire for it. The Vines and their bunches were all in most excellent order, clean and healthy, no shanking, and any insidious attempts of red spider or other enemies to gain a footing were at once counteracted. The fruit from the earliest houses had all been cut, that in the others affording a succession, and Vines in pots were being prepared elsewhere for early forcing next year. Many of the houses contained stove and other plants, which, as specimens, might have appeared at a metropolitan show with advantage. Amongst the latter were some excellent plants of a good variety of the Willow-leaved Croton.

The flower garden proper is situated between the mansion and kitchen garden, or rather to the north of the mansion. Some excavations elsewhere had given Mr. Miller material with which to throw up banks. These were taken advantage of to plant shrubs, and lay out a series of beds, partly irregular and partly forming a regular design. At the time of my visit they were well filled, while a long border in front of the south wall of the kitchen garden was converted into a handsome ribbon border by lines of very choice plants, its height and width giving it more importance than most similar borders. I cannot state the exact length, but it could not be less than 800 feet, and the surface being level, the extent produced its full effect. In this neighbourhood was the croquet ground, almost large enough for a cricket ground. Some specimens of Conifers were also here, including some memorial trees, but the trees and shrubs were mostly at the margin of the dressed ground, leaving the large space alluded to for bowls, croquet, and other games.

The kitchen garden, it is scarcely necessary to observe, was well cropped; good order and cleanliness everywhere prevailed.

The gardener's cottage at the end of the central walk or avenue entering from the west, presents nothing remarkable in its appearance, but it is a comfortable and convenient dwelling, and I hope it may long form the home of its present energetic and intelligent occupier. Suitable apartments for the young men also exist, as well as the other offices required for a large garden establishment. Mr. Miller drew my attention to one place, and it is one to which visitors are rarely invited, yet it is as indispensable as the flower bed or forcing house, and that is the rubbish heap. The worthy writer of the "Doings of the Last Week," "R. F.," very often calls the attention of his readers to the due management of this unfashionable department; but Mr. Miller goes many degrees further than "R. F." contemplates, and I should have much liked him to have been of the party who inspected Mr. Miller's rubbish heap. Instead of an out-of-the-way place being reached, where barrowload after barrowload of the garden refuse lay scattered over the ground in endless confusion, awaiting a sort of a clearing-up day, there was a tidy, well-proportioned yard, with cow shed and milking house in it, and a milch cow and two young heifers stared us in the face, while two pigs, on whom the good things of this world had told their tale, seemed less inclined to recognise strangers; a suitable domicile for them was found at one corner, and comfort and contentment seemed to pervade the happy family, which was not complete without a due proportion of fowls. Here, then, was the rubbish; here the basketfuls of short grass from the lawn, the waste Lettuces, Cabbages, and other garden refuse were transformed into the best of manure, ready for the garden again. To say nothing of the other good things the fowls and four-footed animals furnished for the use of their careful tenders, the economy of material is highly creditable to Mr. Miller and his better half.

Coventry is the most convenient railway station for Combe.—J. Robson.

NOTES AND GLEANINGS.

One of our contemporaries is angry with us because of some observations we made last week on the Horticultural Congress held at Manchester. In making these observations it was not our intention to give offence to anybody. The Horticultural Congress, like any other horticultural subject, was one

fairly open to criticism in our pages; and if we, in common with a great number more, did not regard it with the same favour that our contemporary did, that is no reason why he should take offence. We would not have noticed the matter were it not that we are called on to answer several charges. One is that we have called the meeting a Congress when it is nowhere officially called so. If we have erred in this we have done so in good company, for our contemporary uses no other designation. Even in the paper in which he makes the complaint against us he publishes some of the essays "read at the Manchester Congress"! The other charge against us is that we opposed "the larger scheme of a Congress, which was the original proposition." We must respectfully ask our contemporary to reconsider this statement. When, in December last, we announced the meeting of a Congress, we said, "We hope it may be well attended and prove satisfactory." We are not conscious of ever having published a word that was opposed to the movement.

—— At a meeting of the English Sub-Committee of the Hamburg International Horticultural Exhibition held at the offices of the Royal Horticultural Society, South Kensington, on the 3rd inst., a letter was read from the Hamburg Committee intimating that exhibitors competing for the Queen's prize for Grapes would be required to contribute at least three bunches each. Mr. T. Fingens, a member of the Hamburg Committee, has arrived in London for the purpose of aiding the English Committee. Already several entries have been received, and among the most important are the following:—Grapes—Mr. Meredith, Mr. Hollingsworth, and Mr. Thomson, of Dalkeith; Cut Flowers—Messrs. F. & A. Smith, and Messrs. Downie, Laird, & Laing; Coniferæ—Messrs. Barron & Sons, of Elvaston Nursery; Implements—Mr. Le Butt; Boilers—Dennis & Co.; Terra cotta work—Mr. Hudspith. Another long list of extra prizes was also received from Hamburg, and it has been arranged that after the prizes have been awarded exhibitors will be allowed to affix their names and price lists to their contributions. Dr. Oscar Gossler, of Hamburg, has, at the request of the Committee, kindly undertaken to secure apartments for visitors, who may write to him direct or through the English Sub-Committee. The official distribution of prizes is fixed for the 13th of September, and a sale by auction will be held in the grounds on the 14th of September, to enable exhibitors to dispose of their goods. The English Sub-Committee have appointed as their shipping agents the well-known firm of Weatherly, Mead, & Hussey, of Great Tower Street and Chamberlain's Wharf. The Exhibition is to be opened on the 2nd of September, so that contributors have no time to lose.

—— The Metropolitan Board of Works have added another new park to the metropolis in Finsbury Park, which was opened on the 7th inst. by Sir John Thwaites, the Chairman of the Board. After performing a tedious circuit of the park, with two Rifle bands "stepping short" nearly all the way, the members of the Board, and those who took part in the procession, entered the enclosure. Sir John Thwaites then declared the park open, and, after doing so, remarked that though the space around had little to do with the district after which it had been named, it was impossible, on account of the expense, to make an open space where the ground was covered with houses; all that could be done was to preserve open spaces, where these exist, before they became covered with houses, as the whole neighbourhood of this new park soon would be. The Board had been watching with the greatest care the places which had been long enjoyed by the public, and in their efforts to preseve them he hoped they would have the support of the public. The day had long gone by when it was necessary to advocate parks and similar places as a means of improving health and of bracing up the mind and body; and he hoped that in time yet more would be added to those at present existing.

The new Finsbury Park is about 120 acres in extent, and occupies a somewhat elevated position between Wood Green, the Seven Sisters' Road, the Green Lanes, and the Great Northern Railway, and fine views are obtained northwards towards Muswell Hill, the Alexandra Park Palace forming a conspicuous object in that direction. The grounds have been laid out by Mr. Vulliamy, the architect of the Board of Works, and Mr. Alexander McKenzie, the latter carrying out the whole of the groundwork and planting. The trees and shrubs, with the exception of a few previously existing, are as yet small, but, doubtless, the ultimate effect will be good. The memorandum relative to the formation of the park, issued by the Board of Works, states that a favourite suburban recreation ground, known as Brown's Wood, or Hornsey Wood, and Hornsey House, also formerly called Copt Hall, was selected as the site for the park. The ancient designation of the estate is the Prebendal Manor of Brown's Wood, in the parish of Harringay, otherwise Hornsey. The ground has a gentle southern slope from Highgate on the west, and towards Stoke Newington on the east, and is skirted on the south by the Seven Sisters' Road, and on the east by the Green Lanes. The Great Northern Railway bounds it by a cutting and embankment on the western side; and latterly the London, Edgware, and Highgate Railway has been made, with a station adjoining the park. Certain public footpaths had to be preserved for the use of the adjacent lands, and the course of the New River is through the northern portion of the land. Since the park was formed, Parliament has permitted the East London Water Company to form a great reservoir, of some acres in extent, under the surface, for the storage of water on a high level; but as the ground will be turfed over and belted with shrubs, the public will not be losers by the arrangement. Contracts were made in 1866 for the drainage of roads, &c., the formation of roads, footpaths, and ornamental water, the erection of the entrance lodges and the gateways, inclosure palings, &c. Last year, also, the planting of the trees and shrubs was completed. The expenditure for the park up to the 30th of June, has been £97,275 3*s.* 3*d.*, or, deducting £2,577 0*s.* 9*d.* received for old materials, &c., £94,698 2*s.* 6*d.* Of this the cost for parliamentary expenses was £975 3*s.* 1*d.*; property and compensation, £54,847 18*s.* 8*d.*; professional and office charges, &c., £11,252 0*s.* 10*d.*; works, £26,814 9*s.* 2*d.*; trees, shrubs, planting, &c., £2,384 8*s.* 2*d.*; wages for supervision of works, £351 12*s.* 10*d.*; incidental expenses, £619 10*s.* 6*d.*

WORK FOR THE WEEK.

KITCHEN GARDEN.

Stir the surface of the soil among all growing crops, as it is now caked by the action of the late heavy rains. Trench or dig every spare piece of ground for winter crops. Earth-up all the Cabbage tribe sufficiently advanced, and make succession plantations of *Brussels Sprouts*, *Buda Kale*, and *Broccoli*. Prick-out the *Cabbage* plants intended for spring use in nursery beds, that they may become sturdy previous to their final planting. See that *Celery* as it advances has every attention as regards weeding, the removal of offsets, and earthing-up; but in no case let the earth be raised so high as to injure or choke up the heart of the plant. Sow a small quantity of *Cauliflowers* for hand-lights; those to be wintered in frames may be sown eight days later. Plant a considerable breadth of *Endive* and *Lettuces*, and make a sowing of the latter for standing the winter. The black-seeded Brown Cos and Hardy Green are very good for this purpose. Sow Tripoli *Onion*. *Ash-leaved Kidney Potatoes* intended for seed may now be taken up, and exposed to the sun till they are green. Should the disease attack the other early sorts, let them be taken up at once, dried, sorted, and packed in dry earth or charred material. Now is a good time to make a good-sized plantation of *Savoys* for late-autumn use. Trench, manure, and dig a piece of well-drained soil for *Winter Spinach*.

FRUIT GARDEN.

Commence layering Strawberry runners in small pots for forcing. Pot for early forcing as soon as they are well rooted, and place the plants in a situation fully exposed to air and light, setting the pots on coal ashes to prevent worms entering. The following are among the best kinds for forcing:—Black Prince, Keens' Seedling, and May Queen for early forcing; Ingram's Prince Arthur, Sir C. Napier, and Oscar for later crops. Gather Pears and Apples as they ripen.

FLOWER GARDEN.

The propagation of all the more important bedding-out plants must be pushed on as quickly as possible. Late-struck cuttings are difficult to keep through the winter, owing to their having an insufficient amount of roots, and the wood being badly ripened. Let Scarlet and other Pelargoniums struck in the open ground be taken up and potted as soon as they have made roots; they will require a close frame for a week or two, when they should be placed on a dry bottom in a southern exposure to harden them for the winter. For the same purpose Verbenas, Petunias, &c., struck in pans and intended to be wintered in these, should be placed in a similar situation, at the same time stopping the points of the shoots. It should, in fact, be a point to keep them as hardy as possible by fully exposing them until they are placed in their winter quarters.

Mignonette, for winter and spring flowering, may yet be sown. Phloxes and other herbaceous plants will now be making a tolerably good show. Hollyhocks are in general great favourites, but they do not afford cuttings freely, and are in general over-plentiful at most places. These should, therefore, be examined often in search of any cuttings which they may afford, as those rooted about this time will make strong plants for next season. Attend to the tying-up of these and Dahlias, and go over the masses of Verbenas frequently for the purpose of regulating the growth, so as to keep it orderly and neat. Sow Ten-week and Intermediate Stocks for spring flowering; transplant Brompton and Queen Stocks, and if the situations in which these are to flower are not at liberty, prick them out in nursery beds, allowing them plenty of room to prevent weakly growth.

GREENHOUSE AND CONSERVATORY.

Examine the stock of pot plants in the conservatory, in order to see that none is suffering from want of pot room or other attention necessary to assist them in making young wood for flowering next season; also see that proper care is bestowed on late-growing plants in borders, for while in active growth more water will be necessary, and insects will be more troublesome than on plants at rest. Look after Luculias, and keep them clear of their great enemy black thrips; give them plenty of water at the root, and an occasional supply of clear weak manure water may be given to old plants not growing freely, until they have made plenty of wood to ensure a good display of flower. Manure water must not, however, be given to young specimens in vigorous growth, as in that case it would induce too gross a growth, a condition in which they seldom flower profusely. In order to secure fine heads of bloom from this plant it should be allowed a few weeks of comparative rest, after, say, about the middle of next month, keeping the roots rather dry, and exposing the plants as freely to air as can be done without injury to the foliage or the health of their neighbours. Brugmansia sanguinea is also a useful plant for flowering in winter and early in spring, when managed so as to have it pruned, rested, and starting into growth about this time. See that large specimens are not allowed to become too dry at the roots after they have set their buds, for the shedding of the latter is due to this cause. Young vigorous plants, however, frequently require to be watered rather sparingly at this period to prevent their making a second growth. Cinerarias for early flowering should now be growing freely, and should be shifted when necessary, for if they are to form large specimens for flowering in winter they must not be permitted to sustain any check. Remove suckers whenever they can be obtained, and pot them for spring flowering. Calceolarias will now be beginning to demand attention. Have cuttings of favourite sorts rooted as soon as possible. Seed may also now be sown in pans placed on a gentle hotbed. Let the stock of Begonias have another shift, if not already in pots sufficiently large. Keep the pots at a sufficient distance from each other, in order that the foliage may be kept from injury. Crowea saligna and Plumbago capensis are both valuable autumn-flowering plants, and the latter is almost indispensable for cut flowers. Attend to Chrysanthemums; water freely with liquid manure; good specimens should be aimed at rather than a few fine blooms. The earliest winter-flowering Heaths and Epacrises should now, or soon, be placed under cover, as it will forward their blooming. Give air, however, freely. The potting of Hyacinths, Narcissuses, &c., for forcing must soon occupy attention. About equal portions of good fibrous loam and decayed leaf mould, with silver sand, will be the best soil for them if for forcing, but well-decomposed cow dung must be substituted for the leaf mould when the bulbs are intended for late flowering. After potting place them on a dry bottom, and cover the pots 2 or 3 inches deep with old tan or ashes, preserving them at the same time as much as possible from heavy rains; under this treatment they will fill their pots with roots, and be in readiness for forcing when wanted.

PITS AND FRAMES.

Take every opportunity to collect soils of different sorts for winter and spring use; for although a few sorts of soil will suffice for all operations, yet in spring, when early Potatoes, Kidney Beans, Cucumbers, Melons, early Peas, and a number of other crops have to be grown, if a good quantity of dry soil is at hand it is of the utmost importance. A back shed may be filled with different soils put together at this season in a dry state. Collect everything that will make a compost, and have the different heaps numbered, so as to know in spring what they are—such as old Cucumber and Melon soil, plenty of decayed leaves, rotten dung, deer dung, rotten cow dung, road and river sand—indeed everything which can be collected.—W. Keane.

DOINGS OF THE LAST WEEK.

Allotment Gardens.—Writing last week of Potatoes and Peas reminds us that now and onwards are trying times for testing the neatness and continued energy of holders of small pieces of ground. We think but little of good cropping and neatness everywhere observable in the spring and early summer months. The neat clean path up to the cottage door, the well-trimmed flower border, the neatly-staked Peas, and the well-rounded rows of Potatoes, and well-thinned Onion beds, are only in keeping with the budding of the year, the singing of the birds, and the sports of the tambkins. But as autumn comes on, it too often brings with it an enervating influence. The bread-winner of the house comes home wearied and tired, and he has not such a keen eye for the weeds and what is decaying as he had in the spring—more need that others at home, however young, should put their little hands to the work and be taught to do so. As there is something joyous in what is progressing, so there is something melancholy in looking on the decaying. Too often in autumn the path choked with weeds takes the place of the bright one in spring, and withered tops of Potatoes, and dead and dying Pea haulm meet the eye, instead of something making progress and growth for future usefulness. Now, such sights should rarely be seen, and for as short a time as possible, as no sooner is such a crop taken than it ought to be followed by another.

Here, again, we would notice the superiority of the garden near the house over the allotment at a distance. In the garden near the house every drop of dirty water, dish-washings, &c., all come in useful, and for fresh-planted crops are much better than clear water, and the earth is so grateful for what is thus bestowed upon it, that it soon absorbs all those qualities that might be noxious, becoming thus the best of all disinfectants. Stronger waters must be mixed with pure water, that the roots may absorb them without injury. A puddled hole, or an old barrel sunk in the farthest-off part of the garden may thus be most useful and profitable, when it is not convenient to use the liquid at once; and all solid matters should be kept in a heap, and sprinkled frequently with a little earth to keep in all the nourishing, fertilising properties. Every withered Cabbage leaf, every bit of Potato haulm, may thus be made to return to the soil what it has taken from it, and there are few cottages from which these valuable manure-dressings may not be accumulated. Now, much as we approve of moderate-sized allotments, even though these be at a distance from the homestead, they will never compare with the garden close to the cottage, as much cannot so easily be made of the refuse of all kinds that comes from the home. We are much pleased with two things connected with cottage gardens and allotments. First, that these are better kept and managed throughout the year than they used to be, so that want of thrift and want of tidiness are less observable in the autumn than formerly; and secondly, where societies are established for promoting well-managed gardens, it is beginning to be a more general system not to examine these plots once or twice, but three or four times in the course of the year. The natural flagging energy of the autumn is thus kept up to something like the buoyant energy of the spring. All of us cultivators need a little of this reminder, otherwise it will insensibly creep upon us. We would also suggest that in all competitions between the holders of allotments and gardens, rather more should be expected from gardens near the house than from those considerably removed from it. The next time we are a few hours from home, we shall be glad to see no festering Potato tops and no withered Pea haulm, but the ground turned over afresh and filled with something that will help to fill the pot in winter.

Some time ago we made remarks on the allotment system, and now, as then, we hold that allotments are useful to a working man, chiefly when they are as large, and not larger than he and his family can cultivate well without losing time at the regular daily labour. Except in the case of jobbers, whose time is to a considerable extent at their own disposal, a piece of ground so large as to require the occupier to be several days or weeks from his usual day labour, is a very questionable advantage. The earth is still a good paymaster, but we have long been convinced that to make the most of it, a man must either have enough of it to keep him constantly employed, and

thus become a small farmer, or he must have no more than can be managed without breaking in on his usual avocation. When days or weeks are wanted, there generally springs up a feeling of dissatisfaction, as the man might be the most useful to his general employer just at those times when he would wish the most to be on his own holding. Granting, too, that when a man reaches his home and is refreshed, he will work with a zest for himself and family, such as he could hardly be expected to do in such long hours for an employer, and more especially if the garden or the allotment furnish employment different from that of the day; still, the feeling is apt to arise, that the man who is extra industrious for long hours night and morning is not in the best position for putting forth due physical energy during the day. As a general principle, very long hours of labours are a mistake. A great amount of work may thus be gone through in a short time when the practice is resorted to but seldom; but where it becomes a matter of custom, as in the hay and corn harvest, the advantages are very problematical. When, in an emergency, we have had two or three hours extra labour and paid for it, we always found that if long continued the advantage ceased. The human machine, like other machines, can only with advantage do a certain amount of work. Hence, in relation to the case in hand, we have known an allotment of a quarter of an acre prove of great value to a man and his family, but it ceased to be an advantage when he had half an acre or more, as then he had either to hire labour, or lose time himself, and that led to unpleasantness between him and his regular employer.

Who is an amateur gardener? This question, apparently a simple one, is frequently a cause of much unpleasantness in country horticultural societies. It is well in all such cases that the outlines of classes should be clear and distinct, so as to prevent all dispute. The holders of the smaller allotments, and of cottage gardens, generally compete together as cottagers, in whatever occupation they may be employed during the day; but in places where gentlemen's large gardens abound, it is found desirable that the labourers in these gardens should compete by themselves, and not with other day labourers, as many of these garden labourers from long practice may well be looked on as gardeners, and, therefore, as having greater advantages than other labourers. Mechanics and artisans also sometimes form a separate class, as they are presumed to have greater means at their command than the agricultural labourer. Very often all these compete together under the name of cottagers, and it will at once be apparent not quite on equal terms, but if in one class, the judges can look at nothing but the merits of each case. The disputes on this, however, are seldom so keen as about the amateur class. This is partly owing to the fact, that our great metropolitan societies chiefly recognise two classes, nurserymen or tradesmen, who cultivate for sale, and amateurs, including gentlemen and gentlemen's gardeners. In most country shows there are the classes for nurserymen, gentlemen and gentlemen's gardeners, amateurs, and cottagers, and it is this amateurship that creates the difficulty. Not long ago, some gardeners who exhibited successfully as gentlemen's gardeners were very much annoyed because their superior productions were disqualified from taking a prize in the amateur class. It would be well, then, if a broad deliverance were given on the subject, and then exhibitors and judges would never come into unpleasant collision. Were we to define the term amateur as generally understood, we should say that an amateur was a person having a taste for a particular art or science, yet not professing nor being dependant for a livelihood upon it. In this general definition our large societies include all who have gardens and gardeners, from noblemen to bankers and wealthy tradesmen. But when in the country societies there is a distinct class for all the above, and a separate class for amateurs, we are forced to add something to the above definition as applied to gardening, and our opinion is, that under such circumstances a man, however fond he may be of gardening, ceases to be a mere amateur when he employs another person *constantly* to assist him in his favourite pursuit. So long as he lives by other means, makes gardening a hobby, does the work himself, or merely obtains occasional assistance, he is an amateur; but when he employs a man constantly, no matter whether he calls him labourer or gardener, then he changes the class in which he must exhibit. We ourselves should be inclined to keep so much to the general definition as given above, as to take out of the amateur class the man who made a marketable affair of his hobby. According to country practice, he would then cease to be an amateur. We either want to do away with this class, or have a more defined nomenclature, and we propose for consideration that where such distinct classes exist, an amateur shall be a person who prosecutes gardening chiefly for his own enjoyment, and without any except occasional help. When he employs a man constantly, he must compete with other gentlemen and their gardeners. We shall be glad if our readers will state their opinions.

KITCHEN GARDEN.

The work has been to a great extent a repetition of that of previous weeks—planting Greens, &c., in every piece of vacant ground, the showers being a great advantage, as the ground where hard-cropped is exceedingly dry. Cleared the stools of Celery, removing every incipient sucker, tying-up previously to earthing-up the earliest. Though not allowed to be dry, owing to mulching, the bulk of the Celery has not grown very vigorously, but it is now pushing rapidly in the cooler days and longer nights. The worst of the dry season is now past, and we may now be tolerably certain of having enough of moisture. We took up a lot of the last of the autumn-sown Onions, and exposed the root ends to the sun before housing. We expect that our spring Onions will yet grow considerably, though they made no progress in the dry weather. A few tops are acquiring a yellowish tinge. Could we have flooded the beds six weeks ago, the crop would have been splendid; as it is, it will be good. Cauliflowers we never had finer; a few only of the earliest had greenish, loose, flowery heads, and the cause was wholly unknown to us, as all were treated alike. At the present season there is often apt to be a glut, and sometimes a short interval between the successions; this can be prevented by taking up some of the plants when the heads are firm and not fully swelled, removing all the leaves, except a few small ones round the head, and cutting the stems so as to leave 6 or 8 inches below the heads, and inserting the stems upright in damp sand in a dark place. In this way the late Mr. Crockett, of Raith, used to keep Cauliflower during most of the winter. Even now this is a much better plan than taking up the plants, and either hanging them up or laying them in "by the heels."

FRUIT GARDEN.

Continued summer-pruning wall trees, dwarfs, and standards. The fruit of the Apple where at all thick falls considerably, though we think a good crop will be left. We find that the roots are not so moist as we could wish, but as yet we have not ventured on watering them, and we trust they will soon have enough rain water. Our Raspberries, though bearing freely, have suffered from last summer's drought, as the canes were much smaller than usual, and some died away. We never wish to pass such another summer as that of 1868 in a garden, and feel powerless from the want of water. Even some hardy trees show the effects of the parching, though in general the foliage of forest trees has been fine, especially of all deep-rooting trees, as the Oak.

Besides attending to Peach houses, vineries, and especially orchard houses, with water, we have potted a number of *Strawberry plants for forcing*. A few details may be useful for beginners. 1st, Of pots, we prefer what are called 40's and 32's—that is, 5 or 6-inch pots, to larger pots, which are apt to encourage too luxuriant growth. These pots, if new, should be soaked, and then allowed to dry before using them. All old pots should be well washed and dried before being used. 2nd, The soil should be loamy rather than sandy, and enriched with about one-sixth part of rotten dung that has been well aired and sweetened before mixing. 3rd, At potting the crown of the plant should be little below the rim of the pot, as it may be expected to sink a little. 4th, The soil should be made very firm. The fingers will not make it firm enough—a small stick will be necessary to beat it round the plants. Bear in mind it can scarcely be made too firm. 5th, When the plants are potted the pots should be set on a hard bottom, and the plants exposed to all the sun possible. If they flag a little under the sun a slight syringing over the foliage will be better than shading. As soon as the roots begin to reach the sides of the pots rich top-dressings and manure-waterings may be freely given. During a showery autumn a sprinkling of soot on the surface will be advantageous, or any other rich manure; but if good guano is used, a very small pinch of it between the fingers will be enough for a pot.

ORNAMENTAL DEPARTMENT.

Here we have been very busy; potting, fresh-arranging, keeping lawns and walks in order, and trimming and training plants in flower beds, though we generally allow the plants to assume their natural mode of growth. Pegging down, besides the time and labour involved, is often prejudicial to the plants when prac-

tised early. Many a plant will pass a cold night unscathed if its natural upright growth is not interfered with, but which would have been greatly injured if its stems had been exposed to free radiation. We pegged down a line of Purple King Verbenas too soon, and they suffered considerably, when other lines left upright did not suffer at all. The Purple King is now fine, but it would have been finer and earlier if we had either not pegged down at all, or done so a month later when the weather was warm.—R. F.

TRADE CATALOGUE RECEIVED.

W. Cutbush & Son, Highgate, London, N.—*Bulb Catalogue for* 1869.

COVENT GARDEN MARKET.—August 11.

The supply of soft fruit has considerably diminished, Strawberries and Raspberries being nearly over, and hothouse fruit, such as Peaches and Nectarines, becoming scarce. A fair amount of business is being done in rough produce. Potatoes are good, and remain at former quotations.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	2	0	3	0	Nectarines ..... doz.	6	0	10	0
Cherries ..... lb.	0	6	1	0	Oranges 100	10	0	14	0
Chestnuts.... bushel	0	0	0	0	Peaches ..... doz.	8	0	16	0
Currants .... ½ sieve	4	0	4	6	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	5	0	6	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	4	0	8	0	Plums ..... ½ sieve	3	6	0	0
Filberts ..... lb.	1	0	0	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	0	0	0	0	Raspberries ..... lb.	0	6	1	0
Gooseberries .. quart	0	3	0	6	Strawberries .... lb.	1	0	2	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts .....bushel	10	0	16	0
Lemons 100	10	0	14	0	do. 100	1	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce..... score	1	0	2	0
Beans, Kidney ½ sieve	2	6	4	0	Mushrooms.... pottle	3	0	0	0
Beet, Red.....doz.	2	0	3	0	Mustd.& Cress,punnet	0	2	0	3
Broccoli .....bundle	0	0	0	0	Onions..doz.bunches	6	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	0	0	0	0	Peas ..... quart	0	6	1	6
Carrots.....bunch	0	8	1	0	Potatoes .....bushel	3	0	5	0
Cauliflower..... doz.	3	0	6	0	Kidney.... ditto	4	0	6	0
Celery.....bundle	1	6	2	0	Radishes doz.bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb.....bundle	0	0	0	6
Endive .....doz.	2	0	0	0	Shallots .....lb.	0	0	0	6
Fennel .....bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic .....lb.	0	8	0	0	Tomatoes ..... doz.	1	6	3	0
Herbs .....bunch	0	3	0	0	Turnips ..... bunch	0	4	0	8
Horseradish ..bundle	3	0	5	0	Veget. Marrows..doz.	1	0	2	6

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Jonrnal of Horticulture, Cottage Gardener, and Conntry Gentleman." By so doing they are snbjected to nnjnstifiable tronble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee snbjects, if they expect to get them answered promptly and conveniently, bnt write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Market Gardening (*Willoughby Clark*).—We cannot advise you, or give you information. You must go and inquire at Ealing.

Shrewsbury's Heating Apparatus (*Analysis*).—You had better write to Mr. Shrewsbury, and tell him what you need. His mode of heating is good, and he knows better than we do the size you will need.

Garden Pots (*R. S.*).—We cannot recommend one tradesman in preference to another. The potters should advertise. If you refer to Kelly's Post Office Directory you will see a list of them.

Plans of Flower Borders (*Rush*).—You will find a great many plans in "Plans of Flower Gardens." It may be had post free by enclosing 5*s.* 4*d.* to our office, with your address. We cannot furnish plans, though we criticise those sent to us.

Kalosanthes after Flowering (*Idem*).—The shoots that have flowered should be cut down to within an inch or two of their base, and they will push shoots that will not flower next year. There will be other shoots that have not flowered this year, they will do so next; therefore retain them, not shortening, but neatly tying them out. In cutting back the shoots which have flowered, you must have regard to the future shape of the plant, and cut them of different lengths according as the shoots are required. Pot at the end of August, and again in April. In winter keep the plants in a greenhouse from which frost is excluded, and near the glass. We presume they are now out of doors in the full sun, as they ought to be. They should be housed before frost. The Rochea requires the same treatment, only as it has not flowered it must not be cut down, and as you wish it to flower next year the shoots must not be cut back.

Lapageria rosea Shoots Eaten (*W. R. I.*).—The lime, unless it be fresh, is of no use whatever to keep off snails or grubs. Have you looked for them after dark with a lantern? Perhaps you might take the depredators in the act, especially if you were to place a white cloth on the ground and shake the plant sharply. Grubs do not work above the ground line. It must be a weevil, beetle, or caterpillar, and a little patience and research we have no doubt will have a good result. Look on the under sides of the leaves for caterpillars. Snails and slugs may be known by their tracks.

Cutting back Clematis Jackmanni (*Idem*).—It is necessary to cut down when you wish for a greater number of shoots from the base than you have; but if you have as many as you wish, it is well not to shorten the shoots, as they will flower in the ensuing year—that is, the shoots from last year's shoots.

Fuchsia not Flowering (*Ignorance*).—We can only account for the Fuchsia not flowering from its being not near enough the glass, and, perhaps, it has but little sunshine. In a sunny window it is hard to tell how a Fuchsia can be grown without flowering. Give no more water than enough to keep the leaves from flagging, and allow a little air every day without creating too much draught. Move it as near the glass as you can.

Old Garden Neglected (*Idem*).—We presume you have only just come into possession. Being in such a bad state we should not crop it this year, but at once have it cleared of the weeds by hoeing or forking up as may be required, taking up the perennial-rooted weeds, as Couch Grass, Dock, Dandelion, Plantain, and others, with a fork, and burning them. The ground being thus cleaned and stirred you will obtain a splendid crop of weeds again by autumn, and these we would dig in before they seed. Trench the ground early in November, 2 feet deep, or, if the soil is not of that depth, as deeply as you can without bringing too much of the bad soil to the surface. If it is clayey and heavy it would be well to throw it in ridges so as to expose it to the action of frost as much as possible. During dry frosty weather in February, the ridges may be thrown down, and this will contribute much to the destruction of vermin and the amelioration of the soil. In March give a good dressing of lime, and at the end of the month you may crop the ground with Potatoes, and every kind of vegetable you require, manuring well before planting or sowing.

Maréchal Niel Rose (*C. F. O. S.*).—"It is so late in the season that I should not advise you to try and make your rampant Maréchal Niel bloom. Let it alone, and next spring take off the points of the shoots to a good eye in firm wood; and it will break, and bud, and bloom again. I have four plants in front of my house (south aspect) without a single leaf. —W. F. Radclyffe."

Plants for Conservatory Wall and Baskets (*St. Dennis*).—As you wish for evergreens, our selection is curtailed—Rhynchospermum jasminoides variegatum, Hoya carnosa variegata, Lucnlia gratissima, and Habrothamnus elegans may suit you. The former two have variegated leaves and flower in summer; the latter two flower in winter and spring; one of each has sweet-scented flowers. For the baskets, Ferns would perhaps serve you best if the house is shaded, or if there are climbers. The following are suitable—Adiantum setulosum, Platycerium alcicorne, Drynaria pustulata, Niphobolus rupestris, Nephrolepis exaltata, N. tuberosa, and Selaginella cæsia. There are few plants with variegated foliage suitable for baskets, the exceptions are—Saxifraga sarmentosa, S. Fortunei, Sedum japonicum variegatum, and S. Sieboldii variegatum. Pothos argyrea is a good basket plant but requires a stove; it has ornamental foliage, and will do in a conservatory in summer.

Centaurea for Bouquets (*W. T. C.*).—The Centaurea used for bouquets in Covent Garden Market is C. Cyanus, known commonly as the Corn-flower. As you ask for a monosyllabic answer to your other query, we say, "No."

House Sewage (*A. B., Exeter*).—If you enclose four postage stamps with your address and order "Muck for the Many," it will be sent to you free by post. This little pamphlet contains very full directions for the use of sewage and other manures.

Heating a Small Greenhouse (*Peter T.*).—A small brick stove, such as lately described, would heat your house, 18 feet long by 10 feet wide, and so would a small iron stove, which you could remove from April to October. If you wish to combine neatness with efficiency, and can go low enough for a stokehole, we would have a flow and return small flue beneath the floor, and the top of the flue would then form part of a tiled pathway. Such a flue could be formed of a single brick on edge, and a thin tile for the bottom; but for lasting effects we prefer brick on bed—say, two or three in thickness. A single flue, say 6 inches wide, would be sufficient if you took it across the ends, and up a chimney at the farther end. If you merely took it along the front, a double one 4 or 5 inches wide would do, the chimney being above the furnace. We heated a small house in this way, and we know of nothing neater and cheaper, as no flue is seen, and in a cold damp day in winter the warmed paving tiles are pleasant to walk on. The flues were just covered with thin tiles, plastered over, and on them were placed 9-inch paving tiles on the level of the floor.

Vines and Cucumbers Infested with Red Spider (*Walton Hall*).—The whole of the leaves, Vine and Cucumber, are destroyed by red spider. Nothing will set them right for this season, but you may preserve them in the state they are in, were you to heat the flues no warmer than the hand can bear, and paint them, after closing the house, with sulphur brought to the consisteucy of thin paint, by a solution of 4 ozs. of soft soap to the gallon of water. It should be applied whilst the flues are hot, and when the sulphur fumes are given off, sprinkle the flues lightly after painting them with water. The sulphur paint may be applied with a whitewash brush, and another coating should be put on after sprinkling. On the following morning a good syringing should be given. Within a week repeat the process, as yours is a bad case. Pick off the worst leaves from the Cucumbers, and treat in the same way, only syringe every morning and evening, and sprinkle the paths and other surfaces with water twice or thrice a-day. Dress the Vines in autumn as soon as the leaves fall, with 8 ozs. of soft soap to a gallon of tobacco water, made by infusing 4 ozs

tobacco in a gallon of boiling water. Cover up and allow the whole to stand until cool; then strain and add 1 lb. lime and as much sulphur vivum as will give the consistency of paint. With this mixture coat the Vines, rubbing it well into every crevice, but take care of the eyes so as not to rub them off, stripping off the loose bark previously. The application may be repeated after pruning, and the walls washed with lime and sulphur, the house being thoroughly cleaned.

VINE LEAVES SHRIVELLED (*D. H.*).—We examined the Vine leaves closely but could find no insects, though we are tolerably certain that they have thrips or red spider, and probably both. The leaves have also traces of scalding. You must examine closely for the insects, and if you find the small jumping thrips, fumigate with tobacco; if the small red spider, use sulphur on the pipes, and wash all open spaces with soft soap and sulphur. For the burning, more air and ventilation must be given, especially early in the morning.

PROPAGATING OUT-DOOR GRAPES (*J. T.*).—The Vine ought now to be summer-pruned, if not already done. This pruning consists in thinning-out the shoots, not leaving them too close together, but laying in enough to fill vacant spaces, stopping the shoots bearing fruit one joint or two beyond the bunch, neatly tying and securing them to the wall, not only to produce a neat appearance but to give every part its full share of light, air, and warmth. 1, The wood for propagating from should be removed in autumn, when the leaves have fallen. 2, Last year's wood—that produced this year being taken after the leaves fall, and vigorous well-ripened shoots. 3, Cut into lengths of 10 inches or 12 inches. It will be sufficient if the cuttings have two eyes or buds; cut across below the lower eye and slantingly above the upper one, and insert at once at the foot of your south wall, and so deeply that the upper eye may be level with the surface of the soil. The soil most suitable is a sandy loam. Cover the top of the cutting with leaf mould or very fibrous loam to the depth of 2 or 3 inches. You will have shoots from the eyes about this time next year.

SWEETWATER GRAPES CRACKING (*B. B.*).—To ripen them well and without cracking, the air of the house must be kept dry and abundance of ventilation given. The border, too, should not be allowed to become wet after the ripening commences. There does not seem to have been any neglect in the management up to the time of ripening. Keep the Vine drier both as regards the atmosphere and at the roots, and you will probably escape the disaster next year. The red spider would not cause the berries to crack.

FORMING A VINE BORDER (*R. J.*).—The border being entirely outside, you would do well to keep it as much as possible above the ground level, so as to have it dry. The depth should be from 3 feet 6 inches to 4 feet, and the bottom should be concreted, and incline to the front, where there ought to be a drain running lengthwise, and having a proper fall and outlet, so as to take away superabundant water. One foot in depth should be drainage—stones or pieces of brick, coarse at the bottom, and finer at top. The width of the border should be equal to that of the house, but a 12-feet border will answer very well. It may be made at different times. From 4 feet to 6 feet will be quite wide enough to make it at first. This width will serve the Vines three or four years, and you can add to the width at the end of the third or fourth year. The materials we advise for making the borders, are the top 3 inches of a pasture, where the soil is a good light loam, using it fresh, and cut into pieces about 6 inches square—nine single-horse cartloads; five bushels of charcoal, five bushels of bruised bones, five bushels of calcined oyster shells, five bushels of chalk in pieces not larger than a hen's egg, one load of old lime rubbish, and one load of stable droppings, as free of straw as possible. Mix all well together, and put in the border, surfacing with 6 inches of rotten sods, and put in a barrowful of bones to six of rotten sods. The border should be made 9 inches higher than the intended level, to allow for settling. The roots should be confined to the border by a brick wall. We should have liked your border better had you contrived to have the Vines planted inside. Calcareous soils are not injurious, but essential to Vine culture.

TUBEROSES (*Idem*).—The bulbs should be potted in spring as soon as received, in 6 or 7-inch pots, in rich light turfy loam, and be placed in a gentle heat until they have begun to grow, and being well hardened off should be removed to a light, airy position in the greenhouse, where they will flower in due course. They are not difficult to flower. The bulbs are not of much value in the following year. We think the name of the plant you describe is Sempervivum californicum, having thick fleshy green leaves, tipped with purple. It is of very dwarf, close habit; a fine edging plant.

ROSE SHOOTS SHORTENING (*Agnes*).—The very long vigorous shoots should be left at their full length until the pruning season, when they may be cut back as required. If you wish for dwarf plants, then for the sake of appearance they should be cut back now to the height wished for in summer. If you peg down the long shoots in autumn, merely taking off their weak unripe points, they will shoot from almost every eye, and produce numerous blooms next season, and the height will not exceed from 12 to 15 inches. The shoots which have flowered should be cut back to within six buds or eyes of their base, and you will obtain shoots for autumn flowering if the Roses are Perpetuals, or of kinds which flower in autumn.

GRAPES RIPENING *Idem*).—A little fire heat to admit of free ventilation is desirable when the Grapes are ripening, giving it more in the day than at night. The more air they have the better, if the proper temperature be secured, and air should be given at night as well as by day. One-fourth the amount that is given by day will be sufficient at night. The ventilation should be so given that the Grapes may be safe from rain, for if that fall upon them the bloom will be destroyed.

HAND BOUQUETS AT MANCHESTER (*Evergreen*).—You are wrong, no third prize was awarded so far as we are aware. We published the official list in our number for July 22nd.

BERBERRY HEDGES MILDEWED (*A Subscriber*).—The mildew attacking the Berberry is one form, and that attacking Wheat another form, of the same parasitic fungus, Æcidium berberidis. Almost every plant has its destructive parasite. You may cut the hedge as you propose, and place greenhouse plants by the side of it. They, probably, will not have the mildew of the Berberry communicated to them; but we do not say they will be free from the disease peculiar to each genus or species.

ERUGMANSIAS NOT FLOWERING (*Idem*).—The plants are probably too liberally potted, and are not kept near the glass in the full sun, with plenty of room and plenty of air. To flower them early the plants should be placed in gentle heat in February or March, after being well pruned-in. A vinery is a suitable place to start them in. Have the wood well ripened, keep them dry in winter, and do not overpot, using sandy loam moderately rich. Water well when they are growing, and keep them free of red spider by syringing forcibly.

RETARDING FLOWERING (*Bab*).—You may safely cut off all the most forward Lobella flowers so as to encourage the plants and have more bloom in three weeks. In the case of Pelargoniums and Calceolarias we would only cut off all the old fully-expanded blooms, and leave all those beginning to open. The mere blooming does not exhaust the plants much if no seeding is allowed. Still we have no doubt that the beds will be more brilliant three weeks hence, if treated now as advised above.

FLOWER BORDER (*J. S.*).—For a complete change in such a border, it would look very well with a simple arrangement like the following:—Begin at one end and make circles 3 feet in diameter, so as to leave 1 foot in the centre between circumference and circumference. Fill both sides, that foot and the wider space made by the sweep of the circle, with Cerastium tomentosum from your present edgings. This will give you plenty of white as a groundwork; then fill all your circles with Tricolor Pelargoniums, as Mrs. Pollock; and bright colours as Stella, Christine, &c. You might mix or edge Mrs. Pollock with blue Lobelia, and your pinks and scarlets with Purple King Verbena. Arrange your colours regularly. Coleus Verschaffelti would come in well. We once had such a border and liked it much. The circles we think the simplest, but you might have formed squares and circles alternately. Much will depend on the carpeting of Cerastium.

BUDDING ROSES (*Hampshire Highlander*).—The buds make the best growth when they remain dormant until the spring succeeding the budding. We do not think it desirable to force them into growth at this season by cutting back the stock, for the shoots cannot become well-ripened, and in severe seasons they perish; if not, they mostly grow weakly in the succeeding year.

CHALK BANK IN KITCHEN GARDEN (*Idem*).—The bank would no doubt answer well for Vines if you were to cover it with glass. With ground vineries you might grow Vines very successfully, the situation being admirably suited for the purpose. Cucumbers you might grow in summer with the assistance of hand-glasses. The elevation is too great to enable you to succeed without the aid of glass. The north-east cliff might be covered with Morello Cherries and the hardier kinds of Pears. If the object is merely to cover it, plant Virginian Creeper and Ivy, or Honeysuckles and Ayrshire Roses.

PLANTING CARNATIONS AND PICOTEES (*S. H. M.*).—The best time to plant is March, the plants having been wintered in a cold frame. They may also be planted in September. The best compost is two-thirds of old turfy loam, light rather than heavy, and one-third of old cow dung or well-rotted stable manure. Carnations:—Captain Stott, Lord Ranciffe, Dreadnought, Eccentric Jack, Sportsman, and King John. Picotees:—Green's Queen, Admiration, Amy Robsart, Rev. H. Matthews, Miss Wood, and Charmer.

RAIN WATER (*Idem*).—It becomes considerably altered by standing, and though the best possible water at all times for plants, is not so refreshing when taken from a tank where it has been weeks or months as when fresh from the clouds.

CUTTING BACK ARBUTUS AND LAURUSTINUS (*Colchester*).—The best time in the whole year to cut-in all the plants you name is spring, when they are beginning to grow, or a little before. As a rule, the beginning of April is a good time, and cutting-back may be performed up to the middle of May if the growth has not made much progress. Flowering will then be over, and the shrubs will make a good growth, and have time to perfect it before winter. Besides, by cutting-back in spring, the unsightly appearance of hard cutting is removed, before the summer is far advanced, by the appearance of the fresh foliage. Summer and autumn pruning ought only to be practised when they do not render the objects unsightly, as in the case of hedges or shrubs regularly trimmed.

TRANSPLANTING RASPBERRIES (*C. S.*).—They ought not to be removed until the leaves have begun to fall, and the earlier they are moved afterwards the better, giving a good mulching with half-rotten manure over the roots, a short distance from the stem.

LANTANA PROPAGATION (*R. S.*).—They are propagated from cuttings of the growing shoots, taking them off when their bases become a little firm, but not ripe, and if they have three joints and the growing point they are long enough. Cut below the lowest joint, trim off the leaves from that and the next joint, insert the cuttings up to the leaves in a compost of two-thirds sand and one-third fibrous loam, with a little leaf mould, and place in a gentle bothed of 70° to 75°, keeping them close and shaded from bright sun. They will be struck in a fortnight or three weeks. Harden them, and pot off. Throughout the summer cuttings may be put in, and now is a good time to raise plants for next year's blooming.

WISTARIA FLOWERING TWICE (*Subscriber*).—We knew of no process by which the Wistaria can be induced to flower twice. We had it in flower this year in April, and having stopped all the long shoots at the third leaf, and repeatedly to one afterwards, except those required for extension, which are of course trained in at their full length, it has now some racemes of flowers. The production of such is not uncommon. Your plant will, no doubt, flower well next year. The long shoots must be well ripened, otherwise they will not form bloom buds. Grown in 12-inch pots, and kept closely pinched-in, Wistarias make splendid plants for forcing, and are of a colour much wanted among forced plants.

AUCUBA LEAVES COVERING BERRIES (*Idem*).—Why remove the shoots? The berries will look all the better of being surmounted by handsome foliage. The leaves are no detriment to the berries. The latter will attain perfection, and be very attractive in spring.

DESTROYING MUSHROOM SPAWN IN A VINE BORDER (*W. E.*).—The Mushroom spawn would soon disappear if you were to fork the soil over and saturate it with water. The border is much too dry, and could not be made sufficiently moist without disturbing the soil, for the masses of spawn are all but impervious to water. Last winter in very wet ground we found, in trenching for park-planting, several patches of spawn as dry as dust, whilst the surrounding ground was very wet. Fourteen pounds of lime to thirty gallons of water stirred well up, allowed to stand two days, and the clear liquid applied to the border, would destroy all the

spawn it touched; but a good watering after forking over the border would have the same result. Destroy the Mushroom spawn, for fungi are destructive to vegetable fibre, and especially decayed turf.

Coal Ashes as Nonconductors of Heat (*H. W.*).—The finely-sifted ashes will do very well for the purpose of placing below the double wall of boards, provided they be kept dry. If they get damp, from the weight, they will be apt to make the boards bulge. If you could make sure of the joints of the boards being airtight, you might dispense with either ashes or sawdust between, as the hollow space would be the best of all nonconductors, but that space will only act in this way when airtight. We fear that for a rough job you might have trouble in so joisting the boards. The best mode is to groove the boards and join them with slips of plate iron, and the joints never gape. Instead of 5 inches between the boards, we would be satisfied with 2 or 3 inches. Wood is a good nonconductor.

Measurements—Shy-seeding Pelargoniums (*E. J.*).—A foot run is merely a foot in length, such as a rod, line, or string, the foot being simply 12 inches in length. A foot superficial is a square foot—that is, 144 square inches. This is generally used for measuring most surfaces, multiplying length and breadth into each other. Many sorts of work are measured by the square of 10) feet. Solid measure takes cognisance of depth as well as length and breadth; thus a solid foot will contain 1728 cubic inches, being 144 inches multiplied by 12 inches. The funnel-shape has been more or less used in conical-boilers. We have not noticed the seeding of shy-seeding Pelargoniums this year in the open air, but it may be partly owing to the peculiar season in your fine climate in the Isle of Wight.

Ferns Infested with Insects (*An Old Subscriber*).—The Scolopendrium and Asplenium fronds are infested with thrips. There is but one remedy—fumigate the house or case they are in with tobacco, when the fronds are dry. Choose a calm evening, and shut up closely, so as to retain the smoke about the plants as long as possible. The smoke should be so dense that it will be impossible to see the plants from the outside. Keep close and moist the following day, and repeat the fumigation the next night but one, and whenever an insect is seen. The plants have been kept much too dry and warm. Keep them cooler and moister. Pick off the fronds worst affected, and burn them. You will destroy in that way many insects in the egg state. Much may be done by drawing a wet sponge along the back of the fronds, or where the insects prey.

Names of Plants (*W. O., Didsbury*).—1, Adiantum capillus-Veneris; 2, Microlepia novæ-zelandiæ; 3, Adiantum hispidulum; 4, Caladium argyrites. (*A Subscriber*).—Olearia argophylla. Propagate it by cuttings in spring or summer. (*R. Maitland*).—Sterculia rupestris. (*P. T. O.*).—Both varieties of Salvia Horminum. (*J. Taylor*).—We cannot name florists' varieties such as your Begonia. What you call a Moss is Selaginella denticulata. (*K. G.*).—The tree is Salisburia adiantifolia, or Maidenhair tree. (*T.*).—Spiræa ariæfolia. (*Grangefield*).—3, Aspidium capense; 1, Asplenium furcatum. (*A. L. O. F.*).—Nos. 1 and 2 are insufficient to determine clearly; No. 1 might be Cystopteris fragilis, and 2 a Nephrodium; No. 3 is Campyloneuron lucidum; and 4, Selaginella Kraussiana (S. hortensis). (*Devon*).—Mentha gentilis variegata; 6, Mesembryanthemum violaceum. (*H. J.*).—3, Polypodium membranaceum; 4, Stapelia, corolla had been lost, calyx and pistil only remaining; 5, Erica, probably E. pedunculata; 6, Gesnera discolor. (*Devon*).—1, Rhodochiton volubile; 2, Gnaphalium antennaria; 4, Spiræa callosa, also called S. Fortunei; 5, Centaurea depressa. (*T. L.*).—Bromus racemosus. (*H. J.*).—1, Dieffenbachia segnina; 2, Microsorum iridioides. (*Guilielmus*).—Ajuga reptans alba. (*E. H. W.*).—1, Eriophorum polystachyum. (*Bournemouth*).—2, Leycesteria formosa. (*New Forest*).—1, Bignonia grandiflora; 2, Erythræa Centaurium. (*Georgiana*).—Senecio viscidus. (*A. Y.*).—Galium verum. We fear you would not be able to obtain anything of value by hybridising this plant.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 10th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 4	29.904	29.878	75	66	64	60	S.W.	.10	Very fine; cloudy but fine; showery.
Thurs. 5	30.132	30.066	72	42	65	60	N	.00	Cloudy; densely clouded; overcast but fine.
Fri.... 6	30.271	30.240	68	40	64	61	S.E.	.00	Fine, cloudy; overcast; clear and fine at night.
Sat.... 7	30.222	29.962	70	54	61	60	S.W.	.20	Foggy; fine but overcast; densely overcast.
Sun... 8	29.856	29.767	66	57	61	60	S.W.	.06	Rain; showery; densely overcast, rain.
Mon... 9	29.609	29.523	75	44	62	59	W.	.04	Densely overcast; cloudy, cold wind; showery.
Tues.. 10	29.735	29.684	67	45	62	60	N.W.	.00	Fine, cloudy; stormy; cloudy, cold wind.
Mean..	29.961	29.869	70.43	48.29	62.71	60.00	...	0.40	

POULTRY, BEE, AND PIGEON CHRONICLE.

BLACK-BREASTED RED GAME FOWLS.

Under this head my friend Mr. Dear has given, at page 90, a few particulars of his doings in obtaining a subscription-cup for Black Red chickens at the approaching Show of the Hampshire Ornithological Association, to be held at Southampton on the 9th, 10th, and 11th of November.

As the breeders of Brahmas have been named, I feel I should be wanting in my duty if I omitted calling your readers' attention to the liberality displayed by various breeders of this description of fowl, who during the past three years have contributed very little short of £20 as extra prizes for Light Brahma chickens, which I need scarcely say has brought together the largest entry of this variety that has ever been previously obtained. The great promoter of this variety of our feathered host, Mr. J. Pares, was the pioneer of this annual cup, and contributed the money in a thoroughly liberal spirit, throwing the competition open—first, with a view to support the Southampton Show; secondly, to place the Light variety on a better standing than was previously the case; and thirdly, to give an opportunity to any new exhibitor who may only recently have entered within the pale of "the fancy" for this breed. Surely this is worth imitating, and I had only hoped that Game fanciers would have contributed their support on equally liberal terms.

Depend upon it if those gentlemen named by Mr. Dear wish for a large competition, they must expand their views, be more liberal in their offers; then, I have no doubt, they will meet with the success which the breeders of the Light variety of Brahmas have done. I should mention that at the large show last year the cup was taken by a gentleman who positively refused to subscribe, but he soon became a convert and handsomely contributed to the cup for 1869, and, I believe, will subscribe as long as the promoters of this cup continue their annual support. Much interest is attached to the cup for this year, the subscription for which has already reached seven guineas. Mr. Edward Hewitt, the eminent poultry judge, was one of the voluntary contributors. This example has been well followed up, and I hope in the course of the next week to learn that others have come forward with equal liberality to support the views of gentlemen who lay down *no restrictions*, but simply ask for aid, that the entry for this variety of fowl may not fall short of that of previous years. Mr. Philip Crowley, of Croydon, an ardent admirer of this variety, has undertaken to collect the requisite material this year, and the success he has met with at once shows no pains have been spared on his part to make the cup worthy of competition.

Several cups are being subscribed for by gentlemen whose wish is, that the next show should outdo its predecessors.—P. Warren, *Hon. Sec., Hampshire Ornithological Association.*

COMPOUND FOODS FOR FOWLS.

The advantages claimed for compound foods by their inventors are, as I understand them, as follow:—In the first place, by selecting the finest of those meals proved by analysis to be richest in flesh-forming and heat-giving principles, and combining them, the greatest per-centage of nutritious and stimulating properties is obtained in a condensed and easily assimilated form. Secondly, that by the use of tonics, and of stimulants which are known to exercise a beneficial effect, combined in quantities which experience and observation have determined, we may obtain a general tone of health and vigour, protection from disease and variability of temperature, rapidity of development, and perfection of plumage.

Now I do not think anyone will accuse me of interested motives when I say that after a fair, honest trial I find Dear's food most satisfactorily fulfil these conditions. I have at the present moment upwards of three hundred chickens all fed on it, and not a sickly or diseased bird among them, whilst their appearance and growth are remarkable. My method, however, of preparing the food differs somewhat from that of Mr. Loe, and I think, perhaps, on trial he will prefer it. I have tried various ways of preparing it, but the best in my opinion is as follows:—

I have a large zinc pan, and put into it one-third of barley-meal, one-third of the best fine middlings (this when good should be almost as white as flour), and one-third of Dear's food. I mix them thoroughly together, running the meal well

through the fingers, then hollow out the centre, pour in rapidly boiling water, stir all the time with a trowel, knead to the consistence of a thick crumbly paste which I press into lumps of the size of a cricket ball, and feed. I commence with my young stock about 6 A.M. I am a great stickler for cleanliness, and I take every precaution that the pan is thoroughly scalded out after each making.

In Mr. Dear's prospectus he claims that the loss of birds reared on his "Food" does not exceed five per cent. My loss this year has not been 2½ per cent., and these were mostly in January and February. My honest opinion is that Dear's food gives strength to early-hatched chickens; they grow fast on it, their heads and faces are of a rich red, and as far as condition and plumage are concerned I would wish for nothing better. I think it is a great help to birds in the moult.

I saw in your number of July 15th, an opinion expressed that the plague of feather-eating fowls now so prevalent "is principally to be attributed to artificial feeding." My opinion is that if every breeder used Dear's food prepared on the system I have mentioned, had his poultry kept clean, and gave pure water placed in the shade, not allowed to heat in the sun, we should hear much less about it.—FREDK. WRAGG, *Stoke Park, Ipswich.*

ALLERTON POULTRY SHOW.

THE fifth Show of the Allerton Agricultural Association was held on the 7th inst. The show of Poultry, Pigeons, &c., was very extensive, though the Society is comparatively young. Every year from its establishment there has been an augmentation of the prize list, and the good management of the birds while in the hands of the Committee has so gained the confidence of the exhibitors, that some of the best birds in the country are shown, many of them being sent from great distances.

In the poultry section, the single *Game* cocks were first, and the first-prize Black Red was nearly perfect; and the same may be said of the first-prize Silver-spangled *Hamburghs*. Adult *Cochins* showed to advantage, but *Spanish* did not look so well. Considering the season the *Hamburghs* were good and in fair condition, and the cup went to the most perfect pen of Golden-spangled we have seen for some time. Many of the *Game* were in bad feather, though there were several excellent pens.

In young poultry the first-prize *Spanish* were most beautiful in face and drop, and the first and second *Cochins* were also good; but, ere long, these two pens will change places, as the birds in the latter pen are the most beautiful in colour we remember, though wanting the size of the first. In *Hamburghs*, the Silver-spangled and Pencilled were very good, especially the pullets in the latter. The *Game* were not equal to those shown last year; though this remark does not apply to their numbers. The *Game Bantams* were good, and the cup was given to an excellent pen of Black Reds; but the Bantams in the "Variety class" were poor.

Some excellent Aylesbury, Rouen, and Teal *Ducks* were shown.

The *Pigeons* were a great feature of the Show, and were of special interest to the visitors. Of Ponters there were but two entries, but the Carriers were more numerous. In the Short-faced Tumblers, the first were Almonds of special quality of head and well broken in the feather. Among the Long-faced Tumblers, the first prize went to a very neat pair of Blue Balds; the second to perfect Red Mottles; and the third to Yellow Mottles, which lost only in size, being a little coarser than the rest. The first-prize Owls were White foreign, and the second Blue English. The Turbits were the strongest class of the Show, there being twenty-one entries, and though there were birds of great beauty, there was not a perfect pair in the lot. Those birds which had the most beautiful characteristics of the Turbit head, were deficient in colour, and those that were most perfect in colour were a little foul-thighed. Five prizes were awarded in this class, and were given as follows:—First, Blues; second, Reds; third, Yellows; fourth, Reds; fifth, Yellows. The Jacobins were a good class, and the prizes were all carried off by Reds. Fantails were of high quality, and the tails of immense size. Of Barbs, the first and second were capital Blacks sent from Sussex; and the third, Yellows. Of Dragoons, there were seventeen entries, and most of them were noticed. The first-prize Reds were a grand pair. Trumpeters were large, well-feathered, with excellent roses; Blacks being first; Fawn-coloured Splashes second; and Black Mottles third. It would be impossible to improve upon the prize-winners in Nuns as regards either quality or condition. That most reprehensible practice of showing two cocks as a "pair," seems to have become quite common of late, and in consequence several suspicious-looking "pairs" were passed over unnoticed in the previous classes; but in that for Antwerps, two birds were exhibited in one pen which were most certainly both male birds, and so palpable was this that it admitted of no excuse whatever. The winning Magpies were Red, Yellow, and Black, all three pens being nearly perfect in all points. Archangels were not good. This beautiful variety of Toys seems to be degenerating rapidly. In the "Variety class," Red Swallows were first, German Ice second, and Black Swallows third, all being first-class.

For *Rabbits* there were but two classes; the first prize pair of Lop-ears measured each 4½ inches in width, and one 21¼ inches and the other 21 inches in length; the second, which were not in good condition, 4¾ inches and 4½ inches in width, with 21 inches and 20¼ inches in length; the third 4½ inches and 4⅞ inches, and 20⅞ inches and 20 inches in length, but not at all matched in colour. In the "Variety class," the first were very good Chinchillas; the second a beautifully-marked pair of common Black and White; the third pure White Angora.

SINGLE COCKS.—*Game.*—Cup, 1, and 2, J. Settle, Manningham. 3, W. Fell, Adwalton. *Hamburgh.*—1, H. Beldon, Goitstock, Bingley. 2, A. Driver, Morton Banks. 3, W. Clayton, Morton Banks. *c*, H. Pickles, jun., Earby. *Bantam.*—1, W. F. Entwisle, Leeds. 2, J. Crosland, Wakefield. 3, J. Walker, Halifax.

SPANISH (Black).—1 and 2, H. Beldon. 3, J. Thresh, Bradford.

COCHIN-CHINA.—1 and 2, W. A. Taylor, Manchester. 3, C. Sedgwick, Ryddlesden Hall. *c*, H. Beldon.

HAMBURGH (Silver-pencilled).—1 and 2, H. Beldon. 3, H. Pickles, jun.

HAMBURGH (Silver-spangled).—1 and 3, H. Beldon. 2, W. A. Taylor. *c*, H. Pickles, jun.

HAMBURGH (Golden pencilled).—1 and 3, H. Beldon. 2, H. Pickles, jun.

HAMBURGH (Golden-spangled).—Cup and 1, H. Beldon. 2, H. Pickles, jun. 3, S. & R. Ashton, Mottram. *c*, J. Rollinson, Lindley.

HAMBURGH (Black).—1, C. Sedgwick. 2, W. H. Illingworth, Idle. 3, J. Smith, Gilstead. *c*, H. Beldon.

POLAND.—1 and 2, H. Beldon.

DORKING.—1, J. Stott, Healey, Rochdale. 2, J. Walker, Knaresborough. 3, Hon. H. W. Fitzwilliam, Wentworth Woodhouse.

GAME (Red).—1, E. Aykroyd, Bradford. 2, H. Jowett, Idle; R. Hemingway, Shelf.

GAME (Any other variety).—1, G. Noble, Staincliffe, Batley. 2, W. Fell; H. Jowett. *c*, J. Sunderland, Coley Hall, Halifax.

SINGLE GAME HENS.—1, H. Beanland, Bradford. 2, E. Aykroyd. 3, T. Bottomley, Shelf, Halifax. *c*, J. Smith, Allerton.

GAME BANTAM.—1, W. F. Entwisle. 2, J. Crosland, Wakefield. 3, Miss K. Charlton, Bradford.

BANTAM (Any other variety).—1, H. Beldon. 2, W. Brotherton, Idle. 3, H. Pickles. *c*, S. H. Stott, Rochdale.

ANY VARIETY NOT PREVIOUSLY MENTIONED.—1, E. Leech, Rochdale. 2, R. Loft, Woodmansey, Beverley. 3, Hon. H. W. Fitzwilliam, *c*, C. Layland, Morris Brook.

CHICKENS.

SPANISH (Black).—1, H. Beldon. 2, W. & F. Pickard, Thorner, Leeds. 3, J. Berry, Silsden.

COCHIN-CHINA.—1 and 2, C. Sedgwick. 3 and *c*, W. A. Taylor.

HAMBURGH (Silver-pencilled).—1 and *c*, J. Walker, Knaresborough. 2, H. Beldon. 3, H. Pickles, jun.

HAMBURGH (Silver-spangled).—1, H. Beldon. 2, Ashton & Booth, Mottram. 3 and *c*, W. Bairstow.

HAMBURGH (Golden-pencilled).—1, H. Beldon. 2, J. Sugden, Thornton. 3, G. J. Taylor, Huddersfield. *c*, J. Walker.

HAMBURGH (Golden-spangled).—1, T. Walker, Denton. 2, W. Driver, Keighley. 3, J. Murgatroyd, Idle.

HAMBURGH (Black).—1, C. Sedgwick. 2, J. Cockroft, Hawkcliffe. 3, T. Hanson, Thwaites Bank. *c*, C. Sedgwick; E. Baxter, Idle.

POLAND.—1 and 3, H. Beldon. 2, J. Bowker, Keighley.

DORKING.—1, J. Walker. 2, T. Briden, Earby. 3, J. Stott, Healey.

GAME (Red).—1, H. Jowett. 2, J. Pearson, Allerton. 3, W. Johnson, Idle

GAME.—*Cockerel.*—1, H. Jowett. 2, H. Hatton, Cleckheaton. 3, T. Dyson, Halifax. *Pullet.*—1 and 3, J. Carlisle, Earby, Skipton. 2, J. Hird, Bingley. *c*, W. Johnson, Idle; J. W. Thompson, Southowram.

GAME (Any other variety).—1, L. Wimwood, Worcester. 2, J. W. Thompson. 3, J. Fell, Adwalton.

GAME BANTAMS.—1 and Cup, W. F. Entwisle, Leeds. 2, J. Crosland, Wakefield. 3, G. Noble, Staincliffe.

BANTAMS (Any other variety).—1, W. A. Taylor. 2, H. Beldon. 3, S. Shackleton, Keighley.

SELLING CLASS.—1, J. Smith, Allerton. 2, J. Bowker, Keighley. 3, H. Beldon.

DUCKS.—*Rouen.*—1, E. Leech, Rochdale. 2, W. Bentley, Allerton. 3, S. H. Stott, Rochdale. *Any other Variety.*—1, E. Leech. 2, A. & J. Trickeld, Waterfoot. 3, W. Greaves, Bradford. *Ducklings* (Any variety).—1, E. Leech. 2, C. Sedgwick. 3, J. Wilson, Farnhill.

PIGEONS.

A Silver Cup, value three Guineas, as an extra prize, given by Mr. Beldon, to the exhibitor who received the most value in prizes.—E. Horner, Harewood.

POUTERS OR CROPPERS.—1 and 2, E. Horner, Harewood.

CARRIERS.—1, J. Hawley, Bingley. 2, E. Horner. 3, A. Smith, Skipton. *hc*, J. Thompson, Bingley.

TUMBLERS (Short-faced). — 1, J. Fielding, Rochdale. 2, 3, and *hc*, J. Hawley.

TUMBLERS (Any other variety).—1, W. Lund, Shipley. 2 and *c*, J. Hawley. 3, E. Horner. *hc*, W. Lund; W. Shelton; J. Hawley.

OWLS.—1, J. Fielding. 2, T. Eggleston, Halifax. 3, J. Hawley.

TURBITS.—1, R. Wilson, Thirsk. 2, W. Green, Keighley. 3, J. Hawley. 4, E. Horner. 5, J. T. Lishman, Girlington. *hc*, J. Holden, Wibsey; W. Lund, Shipley; H. Yardley, Birmingham; J. Booth, Allerton; R. Wilson. *c*, J. T. Lishman; E. Horner.

JACOBINS.—1, J. Thompson. 2, J. Hawley. 3, E. Horner. *hc*, J. Hawley; E. Horner. *c*, J. Thompson; J. T. Lishman; T. Eggleston.

FANTAILS.—1, J. T. Lishman. 2 and *hc*, J. Hawley. 3, E. Horner. *c*, S. A. Willie, Surrey.

BARBS.—1 and 2, J. H. Ivimy, Grinstead, Sussex. 3, J. Fielding, jun. *hc*, J. Fielding, jun.; J. Hawley; E. Horner. *c*, H. Yardley; E. Horner.

DRAGOONS.—1, J. Thompson. 2, H. Yardley. 3, J. Hawley. *hc*, J. Greenwood, Queensbury; H. Yardley; A. Smith, Skipton; E. Horner; T. Forrest, Bradford. *c*, J. Candale, Ripon; J. Thompson; R. Wilson, Thirsk; H. Hanson, Manningham.

TRUMPETERS.—1, E. Horner. 2 and 3, J. Hawley. *hc*, J. Candale; J. Thompson; J. Hawley; E. Horner.

NUNS.—1 and 2, W. Croft, Killing Hall, Ripon. 3, J. T. Lishman. *hc*, E. Horner.

ANTWERPS.—1, J. T. Lishman. 2, E. Horner. 3, W. Lund, Shipley. *hc*, W. Lund; J. Hawley.
MAGPIES.—1, J. T. Lishman. 2, E. Horner. 3, M. Wood. *hc*, J. Hawley; E. Horner. *c*, J. T. Lishman.
ARCHANGELS.—1, H. Yardley. 2, J. Booth. 3, S. Smith. *hc*, S. & R. Ashton; H. Yardley; J. Booth; R. Wilson.
ANY OTHER VARIETY.—1, E. Horner. 2, S. A. Wyllie. 3, J. T. Lishman. *hc*, H. Yardley; E. Horner.

RABBITS.—*Long-eared*—1, C. Gravel, jun., Doncaster. 2, A. H. Easten, Hull. 3, A. Crossley, Halifax. *hc*, R. Leonard, Bradford; J. T. Redman, Bingley; Master T. H. Gresham, Bradford. *Any other Variety.*—1, J. R. Jessop, Hull. 2, A. Preston. 3, T. Mitchell. *hc*, Miss Beldon; J. R. Jessop, Hull. *c*, A. H. Easten; C. Gravel.

JUDGES.—*Poultry:* Mr. James Dixon, North Park, Clayton, near Bradford; Mr. Richard Teebay, Fulwood, Preston. *Pigeons* and *Rabbits:* Mr. E. Hutton, Pudsey.

MORLEY POULTRY SHOW.

THIS was held on the 6th inst. in conjunction with that of the Morley Agricultural Society. For several years this Society has had to contend with unfavourable weather on its show day; but for once it was fine. Owing to another exhibition being held in the neighbourhood about the same time, and many supposing the Morley Show to be of two days' duration, the entries were not so numerous as might have been expected, but it is to be hoped that for the future the date will be so arranged as not to clash with other shows. Every attention was bestowed on the poultry, and the exhibitors were dealt with in a considerate manner.

Spanish were a little out of feather, but the *Cochins* were much better, and the cup for that section was awarded in the latter class. The *Brahmas* were also well shown. Of *Game* there were twenty-four entries, and the cup was awarded to Brown Reds. There was also one excellent pen of Red Piles, and a neat Brown Red hen in the single hen class. The *Hamburghs* were mostly good, but the most noteworthy was a pen of Golden-spangled, to which the cup was given. The winning *Bantams* only were of note, and these were very good.

Of aquatic birds, the *Geese* were large, and the Rouen and Aylesbury *Ducks* almost perfect. The cup was awarded to the Rouens.

The *Pigeons* were good throughout, and in high condition and feather.

SPANISH.—1 and *hc*, H. Beldon, Goitstock. 2, J. Gornall, Little Horton. *c*, G. H. Walker, Slaithwaite.
DORKINGS.—1, J. White, Warlaby. 2, H. Beldon.
COCHIN-CHINA.—1 and Cup, W. A. Taylor, Manchester. 2, J. White, Whitley, Netherton, Wakefield. *vhc* and *hc*, C. Sidgwick, Keighley.
BRAHMA POOTRA.—1, E. Leech, Rochdale. 2, C. Layland, Morris Brook, Warrington.
GAME (Black-breasted Reds).—1, J. Fell, Adwalton. 2, G. Noble, Staincliffe, Batley. (Brown-breasted or other Reds).—1, E. Ackroyd, Bradford. 2, H. Jowett, Idle. (Duckwings or other Greys and Blues).—1, H. Jowett. 2, J. Fell. *hc*, G. Noble. *c*, A. Haigh, Morley. (Any other variety).—1, H. C. & W. J. Mason, Drighlington. 2, R. Turner (Piles). *Cock* (Any variety).—1, H. Jowett. 2, H. Beanland, Bradford. 3, W. Fell. 4, H. C. and W. J. Mason, Drighlington. *Hen* (Any variety).—1 and *hc*, H. Beanland. 2, A. Haigh, Morley. *vhc*, H. C. & W. J. Mason. *c*, E. Ackroyd.
HAMBURGHS (Golden-spangled).—1 and Cup, H. Beldon. 2, S. & R. Ashton, Mottram. *hc*, J. Rollinson, Lindley, near Otley. *c*, J. Pickles, Slaithwaite. (Silver-spangled).—1, H. Beldon. 2, W. Bairstow, Fearncliff, Bingley. *hc*, H. Beldon; W. Bairstow; Ashton & Booth, Mottram. (Golden-pencilled).—1, S. Smith, Northowram. 2 and *hc*, H. Beldon. *c*, E. Moore, Cottingley. (Silver-pencilled).—1 and 2, H. Beldon. (Black).—1, C. Sidgwick. 2, H. Beldon.
ANY BREED NOT PREVIOUSLY MENTIONED.—1, H. Beldon (Polands). 2, J. S. Senior, Dewsbury (Polands). *c*, T. Spurr, King's Lynn.
BANTAMS.—1, G. Noble. 2 and *hc*, D. Render. (Black).—1, T. C. Harrison, Hull. 2, S. & R. Ashton. *hc*, H. Beldon. (Any other variety).—1, T. C. Harrison. 2 S. & R. Ashton.
SELLING CLASS.—1, H. Jowitt. 2, H. Beldon.
GEESE (Any variety).—1, S. H. Stott. 2, J. White, Whitley, Netherton.
DUCKS.—*Rouen.*—1 and Cup, E. Leech. 2, S. H. Stott. *hc*, J. White. *Aylesbury.*—1 and 2, E. Leech. *hc*, S. H. Stott. *Any other Variety.*—1, W. Greaves, Bradford. 2 and *hc*, T. C. Harrison. *c*, S. & R. Ashton (Teal Ducks).
PIGEONS.—*Carriers.*—1, J. Hawley, Bingley. 2 and *hc*, E. Borner, Harewood. *c*, H. Yardley, Birmingham. *Owls.*—1, J. Hawley. 2, T. Eggleston. *Turbits.*—1 and *hc*, E. Horner. 2, H. Yardley. *Barbs.*—1, J. Hawley. 2 and *hc*, E. Horner. *Tumblers.*—1, J. Hawley. 2, H. Yardley. *Fantails.*—1, J. Hawley. 2, E. Horner. *hc*, H. Yardley. *Pouters.*—1 and 2, E. Horner. *Nuns.*—1, H. Yardley. *Jacobins.*—1, E. Horner. 2, J. Hawley. *hc*, T. Eggleston; R. Fleming, Hull; E. Horner. *Trumpeters.*—1 and *hc*, E. Horner. 2, J. Hawley. *Any other Variety.*—1, E. Horner. 2, S. & R. Ashton. *hc*, J. Hawley.

The Judges were Mr. E. Hutton, Pudsey, and Mr. Henry Mitchel Hipperholme.

CASTLE EDEN POULTRY SHOW.

THIS was held at West Hartlepool on the 3rd inst. Of *Spanish* the first-prize pen was excellent; *Dorkings*, *Cochins*, *Brahmas*, and *Hamburghs* were also good.

SPANISH.—1, S. Lee, Northallerton. 2, T. E. Pyman, Hartlepool.
DORKINGS.—1, R. Hawkins, Seaham. *Chickens.*—1, Miss Procter, Throsten. 2, Mrs. Burden, Castle Eden.
COCHINS.—1 and 2, G. H. Procter, Durham. *Chickens.*—1 and 2, G. H. Procter.
BRAHMA.—1, J. W. Wilton, Ryhope. 2, R. Moore, Hetton-le-Hole.
HAMBURGHS (Silver).—1, W. Whitfield, Spennymoor. 2, J. Wilson, Spennymoor. *Chickens.*—1, W. Hall, Morpeth. 2, W. Whitfield, Hetton (Golden-pencilled).—1, J. Wilson, Spennymoor. 2, F. Elston, Schofield, Morpeth. *Chickens.*—1, J. Webster, Whitby. 2, W. Hall, Morpeth. (Golden-spangled).—2, W. Whitfield. *Chickens.*—1, R. Moore. 2, W. Whitfield. (Silver-spangled).—1, W. Severs, Bedale. 2, R. Moore. *Chickens.*—1, D. Cheyne, Cowpen Lane. 2, C. Armstrong, Bibside.
GAME (Any variety).—1, J. Grainger, Castle Eden. 2, J. Wilson. *Chickens.*—1, J. Wilson.
GAME BANTAMS.—1 and 2, J. Wilson. *Chickens.*—1, J. Wilson.
DUCKS (Rouen).—1, R. Hawkins. *Ducklings.*—1, R. Hawkins. (Aylesbury).—1, R. Moore. *Ducklings.*—1, W. J. Wilton.
ANY VARIETY.—1, Mrs. Burdon (Houdans). 2 W. J. Wilton.
PIGEONS.—*Carriers.*—1, J. Wilson. 2, J. G. Hodgson. *Tumblers.* (Almond).—1, J. Richardson. *Tumblers* (Any variety).—1, J. Richardson. *Fantails.*—1, J. Richardson. *Trumpeters.*—1, J. Richardson. *Jacobins.*—2, J. Richardson. *Turbits.*—1, J. Richardson. *Owls.*—1, J. T. Coombes, Hartlepool. *Pouters.*—2, J. Richardson.

RED MITES ON CANARIES.

[MR. BLAKSTON has obliged us with the following, in reply to the queries of "C. A. J.," "E. B.," and other correspondents.]

I HAVE been wondering much that an earlier date than August 6th has not brought complaints of the annoyance caused by the presence of the red mite or bug, or by whatever name the parasite infesting Canaries, their cages and nest boxes, may be called. I know well that silence on the matter implies, in the great majority of instances, ignorance of their presence, just as I have known a gardener congratulate himself early in the spring on his currants being free from caterpillars, while his neighbour wisely spent an hour morning and night in hunting for them, when so tiny as to be scarcely visible, yet still quite large enough to play havoc with the opening buds. The result in the one case was a crop of fruit, in the other a visitation as dire as a plague of locusts. I could mention many an instance where the not-unusual query among Canary breeders, "Much troubled with vermin this year?" has met with the response, "Vermin! I haven't any; not such a thing in my place." And so things go on. Apparently there are none, till some day after a little extra bustle attendant upon some necessary attention to a cage, the man who "hasn't such a thing in his place," feels something tickling the back of his hand, ditto underneath his shirt collar, notices two or three little gentlemen in red livery taking their walks abroad on his shirt sleeve, and a colony of emigrants with a settling turn of mind already taking possession of the gathers and folds, with the evident intention of squatting there; and then he arrives at the conclusion that he has some of these pests of the Canary room, and begins a search. He moves a cage a little way from the wall, and stands aghast! The place is alive with them. He gently lifts a second cage from off the top of another, and finds that at every point of contact there is a fine, healthy, thriving settlement, numbering its thousands; begins to think of instituting a thorough examination, and finds every crack and crevice tenanted, the joints of the very seed boxes all occupied, the top and bottom of the cage doors, where they fit tolerably closely, all covered, and even the little wire holes in the front cross-bar, where they are not filled up to their entire depth with the wire, closely packed with the little rascals like bats in a hollow tree. An inspection of the nest boxes reveals a state of things perfectly alarming, and the wonder is how the young birds have survived the attacks of the countless legions of thirsty vampires whose aggregate bulk almost equals their own. This is no exaggerated statement. The delay of a day or two in changing a nest will often demonstrate forcibly the extraordinary fecundity of these little parasites.

In my opinion plenty of fresh air and extreme cleanliness are the best preventives. The mites do not appear very early in the season, and I think that the experience of most breeders will endorse the fact that they come in with the hot weather. I must confess that I have not studied very thoroughly the natural history of this "Cimex canariensis." I am more apt to crush a few against the back of a cage, or to throw an infested nest into boiling water, than to examine very critically into all the *pros* and *cons* of their existence, or to solve the question asked about the flies, "Where they all come from, and where they all go to?" But I lean to the theory that they require an unduly heated state of the bird's body and the surrounding atmosphere to develope them, and that by keeping these conditions in check by cooling diet, free use of the bath, and plenty of ventilation, supplemented by careful search for them, anything like annoyance from them can easily be prevented. The first place where they show themselves is in the nest, underneath the material next the box, whether it be of tin, wood, or earthenware, of which more by-and-by. They

seem to travel through or over every kind of lining material whatever, till they come to some resisting substance, when they stop and rapidly accumulate. To prevent this congregating in the nest in such disagreeable proximity to the sitting hen and young birds, many contrivances have been adopted, all of more or less merit, such as tin nests with only two narrow strips placed crosswise for a bottom, or a nest of perforated zinc, or, better still, of woven wirework, which, however, should be sufficiently open to prevent the hen being caught by her claw, in which case she is very likely to injure herself in her endeavours to set herself free. But the most effective contrivance I have seen, and one which I am assured answers its purpose well, is to use nest boxes of earthenware. We can procure a very elegant article of the kind at any of our potteries, made either glazed or otherwise. This is lined with a thick felt, which can be had of any respectable saddler and harness-maker, and is used by them, I believe, in lining saddles. There are two kinds—one white, and the other brown or black. The former is of the softer quality, and costs about 2*s.* a-pound. I prefer the latter, which is somewhat cheaper, is harder, and not so easily pulled to pieces, while the bird soon works it up to a soft surface with her feet. It is too thick to be used entire, but can be pulled into two pieces without difficulty. The secret lies in lining the nest box, which is done by mixing a little plaster of Paris to the consistency of cream in the earthenware box, and then pressing the felt into it. By this means it becomes so intimately connected with the sides of the box, that any lodgement on the part of the insects is impossible, unless it be immediately round the edges, which can be prevented by a little extra care in putting in the felt.

This method has been adopted by one of the most successful breeders in the north, and, he assures me, with complete success. The vermin must then be looked for elsewhere, and will usually be seen at the back of the nest, or between the ends of the perches and the back of the cage, from which places they can very easily be dislodged, and their rapid increase be materially, if not altogether checked. Oil, sulphur, and the thousand-and-one recipes prescribed for their extermination are very well at certain stages, but with these insects, as with other nuisances, "prevention is better than cure." I could fill this week's Journal with certain preventives, among which is mint. Said a friend to me, "I've found it!" "What?" And then came a subdued whisper, "Mint!" Next time we met I asked him, "How about the mint?" All he said was, "They fatten on it!" The best, however, is too good to be omitted, if you have another inch of space to spare. A breeder, who speaks the true vernacular of this district, says, "I've getten a trap for them; there's nout like a trap. They're larned little jockeys is them rid spiders. I put one of our Billy's buiks, a Latin buik, a top of one of my cages, and next mornin it was swa-armin! The cliver little jockeys had all getten intiv our Billy's Latin buik to larn Latin, and when I put my foot on't, and gi'ed them a bit squeeze, man, believe me I squeezed out above a gill of blood!"—W. A. Blakston.

REMOVING BEES IN HOT WEATHER.

A short time since, thinking the honey harvest in my neighbourhood at an end, I removed four strong hybrid Ligurian Woodbury hives, each having a super partly filled, to the heather. Before doing so I lifted the adapting boards and the covers of the supers, breaking the sealing of the bees to admit air. Tobacco smoke was used to drive into their hives the disturbed bees which crowded the entrances, and the openings were then closed with perforated zinc. Thus prepared they were taken in a spring cart a distance of fourteen miles to the heath, slowly during the night. The last three miles of the road were very rough indeed. My gardener on his return reported that he feared all the hives had been suffocated, but the very wet morning had prevented his opening any before leaving the stand. Returning the first fine day he found the best hive quite dead; two others, each with very few bees living, had formed royal cells; the fourth equally weak, and forming no royal cells. In each case more than three-fourths of the combs had fallen out from the frames. Having fastened these, he left them to their fate with little hope.

I have since visited the stand and find a great improvement. Young queens have been hatched in two hives, and in the third the old queen is alive and doing well. Many combs, however, are full of sealed brood with sunken covers, very dark, and having much the appearance of foul brood when opened. The cells contain either dead bees or decaying grubs, which present a dark, watery, and very unpleasant appearance. I venture to ask if, under the circumstances, foul brood is likely to occur. If not, will the bees remove the dead brood of which I have spoken? And how are strong supered hives at this season best prepared for removal and taken long distances by road to the moors?—B.

[When stocks are so strong and crowded with bees as yours appear to have been, the risk of removal during warm weather is very great indeed. You should have taken off the supers, and tacked down on every hive a square of perforated zinc in place of the top board, deepening it at the same time by the insertion of an empty hive (from which the frames and crown and floor boards had been removed), between it and the floor board. If prepared in this way, and with proper fastenings to prevent shifting, all would probably have reached the moors in safety. We do not fancy that foul brood will ensue, but it seems almost a doubtful case; and we should, therefore, advise you to send one of the combs containing dead brood to Mr. Woodbury, Mount Radford, Exeter, for his opinion.]

FOUL BROOD AND THE THEORIES OF PREUSS AND LAMBRECHT.

The Lambrecht theory appears to meet with but little favour in Germany. In the last number of the "Bee Journal" Herr Klein, of Tambuchshof, denounces it as utterly delusive, in which opinion he is confirmed by Dzierzon, the Baron von Berlepsch, and Günther.

On the other hand, the Baroness von Berlepsch, in a private letter just received, specially directs my attention to an "important article" in the same paper, from Dr. Preuss, supporting and developing his mycological theory, and begs that I will translate it into English. Unfortunately the learned doctor's article is somewhat lengthy; but as the Baroness states that both her husband and Dzierzon "stand to his colours," I will endeavour to get it turned into English, and hope to be able to submit it to the readers of "our Journal."—A Devonshire Bee-keeper.

OUR LETTER BOX.

Parasites on Fowls (*F. J. W.*).—Continue the oil, and if it fail put some camphor ointment at the back of the head, on the backbone, and under the wings. It is a certain cure. Your chickens must have suffered much before they became in the state you mention. A recurrence may be prevented by supplying them with plenty of road grit or wood ashes, mixed with one-quarter of black sulphur. They dust in this, and it prevents parasites.

Canaries Plucking Each Other (*E. S. Polkinghorne*).—Young Canaries frequently do this. There is no cure except caging separately, then the feathers will speedily grow again.

Tumbler Pigeons (*Idem*).—Let out your Tumblers fasting on a fine morning. Shout at them, and wave a flag tied to a long stick. If too fat they will not care to fly; indeed naturally Tumblers only seem to wish to fly occasionally, in certain states of the atmosphere, when rooks and other birds like to dash about on the wing. No Tumblers tumble until they are adult birds. Do not take them away from home, as you may lose them. We have had birds of our own that after six weeks' confinement flew very high and kept up a long time. All Tumblers do not tumble. Those with feathers on their legs invariably do, but then they are the worst-shaped birds. The coarser bred the better they tumble; the more beautiful the shape the less likely are they, but we have exceptions among the latter. Black Balds usually tumble well.

Hives with Combs (*C. G.*).—It is a very great assistance to a swarm of bees to be placed in a hive either wholly or partially filled with combs, provided always that the former tenants have died of starvation, not of disease.

Moths in a Hive (*W. P. P.*).—If the hive be a moveable-comb one, the combs can readily be lifted out and the moth larvæ destroyed. If the combs be fixed, we see nothing for it but to expel the bees by driving, unite them to the next stock, destroy the moths and their larvæ, and appropriate the remaining contents of the hive.

Silkworms.—"A Seamstress" wishes to know where she could dispose of the silk produced by her silkworms, and whether the skeins of silk need be of any particular size?

Maltese Dog (*J. D.*).—You have no remedy; or rather, the cost of recovering the 50*s.* would be more than that amount. We cannot understand how anyone can buy an animal they never saw.

Goat Management (*Harrard*).—We know of no book upon the subject. The following was communicated to this Journal some years since:—"Feed them as you would a cow or sheep; milk them at regular times, and strip them dry. They will eat almost any kind of food. Mine was a common Irish Goat, cost 21*s.*, and gave three pints of milk at a meal. Tie them up while milking, and milk from behind the leg. They are subject to lice: a little oil rubbed on the back is all that is required to remove the vermin. We believe one obstacle in the way of Goat-keeping is the need of keeping a buck Goat as well as milch Goats. If several persons kept Goats in one vicinity, the fragrant gentleman in question might be joint-stock."

Colouring Wine.—"Winepress" wishes to be told how much cochineal he must use to colour ten gallons of gooseberry wine, so as to give it the rosy tint of champagne.

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 19–25, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
19	Th		73.2	49.0	61.1	20	52 af 4	13 af 7	2 af 6	47 af 1	12	8 22	231
20	F		72.9	50.5	61.7	20	54 4	11 7	39 6	45 2	13	3 8	232
21	S		72.6	48.0	60.3	14	55 4	9 7	9 7	48 3	14	2 54	233
22	Sun	13 Sunday after Trinity.	71.7	49.8	60.7	16	57 4	7 7	35 7	53 4	○	2 39	234
23	M		71.9	49.1	60.5	21	59 4	5 7	57 7	59 5	16	2 23	235
24	Tu	Wotton-under-Edge Horticultural Show.	71.6	48.0	59.8	16	0 5	3 7	16 8	3 7	17	2 7	236
25	W	Burton-on-Trent Horticultural Show.	74.2	49.9	62.0	16	2 5	1 7	36 8	7 8	18	1 51	237

From observations taken near London during the last forty-two years, the average day temperature of the week is 72.6°; and its night temperature 49.2°. The greatest heat was 89°, on the 25th, 1859; and the lowest cold 32°, on the 21st, 1850. The greatest fall of rain was 0.95 inch.

POTATO FAILURE—PRODUCE IN CORNWALL.

SEVERAL correspondents have written in the Journal upon the Potato failure of this season, and however they may have differed upon the speculative question of the causes, they are unanimous as to the character of it. To add to the facts already recorded on this point, it may be of service to your readers to know that throughout the western part of the county of Cornwall the same irregularity of growth has occurred.

This, however, was not the case with the early crop, that planted all along the southern skirting of the county, the Mount's Bay district more particularly, in January, and which in April commences to find its way to the London and other markets, where costly rarities have an outlet; but it was found in the second crop—that planted about the second or third week in March. This year, owing to the unusually severe frost which visited us about the 14th of March, nearly the whole of what looked one of the most promising early crops ever grown in the west was destroyed. One grower alone computed his loss to be nearly £2000. The second crop was put in shortly after this frost, its usual time being about the third week in March.

In my own experience (having experimented on an acre of ground), in the first week in January I planted Rivers's Royal Ashleaf, Myatt's Prolific, Johnson's Kidney, Devonshire Kidney, Flukes, and two sorts of Kidneys of local celebrity as early sorts; these all flourished to perfection until cut down by the frost referred to. I found numbers of tubers had formed from 1 to 1½ inch long. The second crop was of the same kind, taken from the same stock of selected tubers which had been sprouted with all the precautions recommended by careful growers, saved the same time, and throughout shared precisely the same treatment as the sets of the first crop; nevertheless, whilst the first crop had no break in it and grew luxuriantly, the second had many and long gaps in the rows, and the haulms that showed themselves were stubborn, ungenerous-looking fellows, totally unlike their fraternity of the first planting. Nothing could exceed the vigour of the shoots at the time of planting; the conditions of aspect and soil were the same, both were planted in ground sloping to the south and naturally of a dry character.

Observation and inquiry lead me to regard the opinion of "J. W., *Lincoln*" (see page 40, July 15th), where he attributes the failure to over-ripeness of the seed, as the one most in keeping with the facts. The condition of the tubers, owing to the exceptional heat and sunshine of last year, was such as to require these being planted two or three months before they were. Those treated with early planting did well; those kept later failed. A certain amount of exhaustion must have taken place prejudicial to the plant, after a certain stage in the keeping of the tubers, or I do not see why, throughout so large an area of Potato-growing country as about one-half of the county of Cornwall, we could witness the facts I have stated.

Thinking it might possibly interest some of your readers to have some idea of the quantity of early Potatoes sent to London and the north during the season, from the Scilly Isles and West Cornwall, I give the figures as kindly furnished me by the Superintendent of the Cornwall Railway—to the end of June 39,064 baskets, containing 1783 tons. Of this the Scilly Isles contributed, owing to the unfavourable season, only about 20 tons of early crop. The first consignment left on the 17th of April. This quantity is much below ordinary years. There also passed over the line during the past Broccoli season 25,075 baskets, containing 2357 tons.

With your permission I may again return to the matter of Potatoes, as several new kinds have been put on their trial in this district—Patterson's Seedling, some American sorts, &c.—and when I can ascertain the results of the tests, you are welcome to the information.—Cornubia.

WAYSIDE JOTTINGS.—No. 1.

I have been induced to forward the following notes, copied almost verbatim from my diary of rambles, principally botanical, undertaken in the few leisure hours that I can spare from professional duties, in the hope that they may prove interesting to such of the readers of The Journal of Horticulture as are imbued with a love of natural history. I would not be understood to put forward any claim to be looked up to as an authority on botanical matters, but rather as a learner, who would submit his exercises for correction and improvement by other correspondents of your Journal who have greater experience. Living, as I do, at the north-western extremity of England, and acquainted only with the plants commonly found in the Cumberland valleys, I should feel obliged by a friendly comparison of notes with gentlemen from other quarters of the kingdom. Interesting as your weekly notices of flowers and flower gardens are, I think there is room for original remarks on their humbler congeners of the mountain bog or the meadow, and such notices, with all diffidence, I propose from time to time to place at your service, to print or burn them according to your estimate of their merits.

Having heard from a friend of botanical proclivities that an excellent field of observation presented itself at Dubmill, on the shore of the Solway Frith, I determined a few weeks ago to make an examination of the neighbourhood. A walk of something over six miles brought me to the place. An old-fashioned little mill, with a farm of average extent for this part of the world, stands close to the shore, divided from the shingle only by the road leading from Maryport towards Silloth. A mossy brook which turns the mill discharges itself into the Solway just below. About a quarter of a mile inland I found an uninclosed piece of moorland studded over with large ponds of water deeply tinged with the colour of the surrounding peat moss. Open cuts, serving the double purpose of landmarks or boundaries of property and outlets of the superfluous water in rainy seasons, stretched across the moor in different directions. The water in some of these "soughs,"

as the cuts are locally styled, was sluggish or stagnant, and here I found a number of interesting plants, such as do not occur except in similar localities. In the open cut nearest to the farm the most conspicuous feature was an abundance of Hippuris vulgaris, Mare's-tail, the first I had ever met with in the county, but which I knew from report was to be found there. Stooping, or rather kneeling, down by the side of the cut to secure a specimen or two for a neighbour's herbarium, I was startled by flushing a young coot, which had sought refuge under the bank, and now, in great alarm, half fluttering half diving through the water, sought shelter under the roots of the overhanging Heath on the other side. On drawing a plant or two of Hippuris from the water, I found long sprays of another curious vegetable product adhering to them, which I had not noticed, and which I might otherwise have overlooked. This was the long trailing stem of Utricularia, or Bladder-wort, with its finely-divided leaves and bright shining vesicles, from which it derives its English name, and which serve a curious purpose in the economy of the plant. In the same cut I noted a few specimens of Nuphar lutea, Yellow Water Lily, and the broad-leaved Pondweed, Potamogeton natans.

Diverging from the moor, I crossed the road on the south side, and entered the meadows through which the brook before referred to pursues its devious course. Open cuts traverse these meadows, all emptying into the brook. In some of these vegetation is abundant. Several varieties of Equisetum are found, the branching Bur Reed almost chokes the waterway, the bright yellow flowers of Ranunculus lingua are here and there very conspicuous, and the Water Speedwell, Veronica Anagallis, grows to a large size. In the brook I found four sorts of pondweed, Myriophyllum spicatum, in abundance. Water Lilies spot the surface of the stream, and one, if not two, varieties of Chara may be seen submerged in the water.

Having spent the couple of hours at my disposal in a most pleasant fashion, I turned my face homewards, mentally resolving to make a more minute survey of this interesting locality at some future and not distant opportunity.—H.

DOUBLE GRAFTING.

Mr. Grieve (see page 120) will, I am sure, excuse me for putting him right in one or two matters; I do it in a kindly spirit. Mr. Grieve states that "the system has been recommended by a French pomological writer as early as the year 1700." He has taken this idea from some inexperienced author, who should have known that it was practised in England from 1630 by Evelyn and by Rea, and that it was known by the Romans some 2000, and by the Chinese perhaps 10,000, years ago; it is also very probable that the race now buried under those tumuli which spread over such an enormous space in Eastern Tartary practised double grafting; so that it has probably been known from "a very remote period." It is, indeed, a sort of instinct in those who love gardening, to regraft a grafted tree which does not suit its place, for I recollect that when I was quite a lad I transformed a grafted Pear tree, which bore only a few sour Pears, into a fruitful tree, by regrafting it with Williams's Bon Chrêtien.

The invention of systematic double grafting is of comparatively recent date, and originated in England some twenty years since by Mr. Rivers double grafting that grand but shy-bearing Pear, Gansel's Bergamot, on trees of Beurré d'Amanlis. As many of your readers may still be ignorant of this simple way of ameliorating fruit, I will try and make it plain. First take your Quince stock (it should be the Angers Quince, and not the Paris Quince), and plant it in your garden. Allow it to grow two years, and then in August of the second year bud it with the Beurré d'Amanlis Pear. The bud will the following summer make a healthy shoot, which may be budded the first year if its growth is vigorous, or allowed to grow two years, and then be grafted in spring. The latter is, perhaps, the better mode if vigorous trees are wished for. It will thus be apparent that from four to five years are required to form a good double-grafted Pear tree.

Mr. Rivers, in his "Miniature Fruit Garden," was the first to systematise double grafting of Pears—*i. e.*, to double graft them with an end. For this reason he selected the Beurré d'Amanlis for the intermediate stock, and knowing well that the Jargonelle Pear on the Pear stock made long vigorous shoots, which after a year or two cankered and bore but little fruit, he double grafted it on the Beurré d'Amanlis Pear to make it more dwarf and fertile. It has answered admirably, and many thousands are now manufactured annually. His next successful essays were to double graft Gansel's Bergamot, to make it prolific, and take off the grittiness peculiar to that, in flavour, the finest of all Pears, and the Beurré Rance to increase its size and soften its astringent flavour. Both these objects have been attained without any great flourish of trumpets, which would have been the case had the method been gleaned from French gardens.

Mr. Rivers has also discovered a most valuable intermediate stock for double grafting on the Quince. This Pear bears a melting fruit, quite late in ripening, and remarkable for its abundant juice and acidity, so as to be scarcely eatable. This is employed as an intermediate stock for such Pears as Summer Doyenné, Citron des Carmes, Williams's Bon Chrêtien, and some other kinds of Pears that require their luscious flavour corrected. As the knowledge of the peculiarities of this intermediate stock (a new variety) has been the result of some close observation, I was not surprised to find its name withheld. For, as Mr. Rivers observes, the appropriation of a new idea without acknowledgement or gratitude is too common at the present day with horticulturists of a certain class; but this feeling or failing is very common among all manufacturers.

Mr. Grieve is "unable to say whether or not double grafting of Cherries and Apples has been practised." Mr. Grieve might have spoken more decisively as to Cherries, for they have long been operated upon in England, and are mentioned by Mr. Rivers in his book. The stock employed is the Cerasus Mahaleb, on which the old Morello, or a variety of it, is budded. The latter is a sort that was raised at Frogmore, remarkable for its vigorous growth, its habit of blossoming abundantly and never bearing any fruit, or, at least, very few. On the young shoots of this kind varieties of the Bigarreau and Guigne Cherries are budded or grafted. This mode of cultivation gives a comparatively dwarf habit to those vigorous-growing sorts, and makes them better adapted for garden trees as pyramids and trained trees, than when grafted on the common black Cherry (Cerasus sylvestris).

With respect to double grafting the Apple, there does not as yet seem any advantage to be derived from it, as the English Paradise stock produces in all our soils and climates such healthy garden trees. I have, however, tried the experiment of grafting that well-known dwarf and prolific sort, the Hawthornden on the Crab, and then double grafting the young shoots with the Blenheim Pippin, and one or two other vigorous-growing sorts. The experiment has been in progress two or three years, and it seems as if the intermediate Hawthornden stock had imparted to a certain extent its dwarf productive habit; but it is yet too early to judge of the effect of this mode of culture.

Referring again to Pears, there is not the least doubt but that many sorts may be improved by double grafting; time and close observation are both necessary to select the sorts and the stocks, so as to regulate the flavour of the fruit. This may seem chimerical, but it may prove very much the contrary.—Observer.

EAST LOTHIAN STOCKS.

I can strongly endorse all that Mr. Thomson has said in favour of these splendid acquisitions to the garden, either for bedding, pot plants, or cut flowers. When I visited Archerfield last autumn, and saw the long lines of them standing up boldly like gigantic Hyacinths, I felt that my journey was more than repaid by seeing them alone.

However, I was sceptical of being successful with their culture, knowing that so many had failed in other localities. I am a believer that soil and locality affect many kinds of plants.

Mr. Methven, of Edinburgh, sent me packets of the various kinds for trial—viz., purple, scarlet, and white. I sowed the seed in gentle heat about the end of March, and gradually hardened the seedlings off, and some time in April they were pricked out into light soil placed over a layer of rotten manure, somewhat in the way we are accustomed to treat Celery. The protection afforded was a sunk pit with boarded covers, which were used against frost and heavy rains. About the end of May the plants were lifted carefully with good balls and planted in well-manured ground; a thorough soaking of water was given to the ground both before and after planting, and the result is, out of a hundred of each kind planted in long bands, each colour separately, there has only one single flower appeared. They are branching and flowering very freely, and the effect is beyond anything I ever anticipated. The position is an exposed one,

and 300 feet above the level of the sea. If the true seed can be secured, I feel certain the plants will give satisfaction to the most fastidious.—M. Temple, *Balbirnie Gardens, Markinch, N.B.*

THE STRAWBERRY CROP OF 1869.

Another Strawberry season is over, and a very trying and peculiar one. Where the plants had been taken care of, and not allowed to suffer from the drought the previous season, there was an abundance of bloom, but a continued succession of cold east winds prevented the flowers from setting. Premier, President, and Sir J. Paxton suffered the most, not because they flowered earliest, as Black Prince, which flowered before them, had a good crop of fine fruit. The remarkably fine weather about the middle of April started the plants into rapid growth, and also into flower earlier than usual, only to be blackened by the frosts in the end of April and beginning of May. Notwithstanding all drawbacks I picked good fruit out of doors, especially of Dr. Hogg, British Queen, Sir Harry, and La Constante; the last-named variety was more acid than I ever had it before; it had the best crop of fruit, however.

By far the best fruit was this year obtained from pot plants. Premier, a beautiful Strawberry, but rather acid, was the first to ripen in the orchard house about the last week in May; this variety is rather acid, but it is very hardy, also vigorous and prolific. The next in succession were Sir J. Paxton and President in the first week in June. La Constante was latest, the first week in July; at the same time I picked Premier and President out of doors.

The sorts I will now add to those I have already enumerated in the Journal are Cockscomb, Souvenir de Kieff, and President Wilder (De Jonghe), said to be a great improvement on La Constante, both in respect to beauty and flavour.

As regards the cultivation of Strawberries in pots, I am very much in favour of putting them early into the fruiting pots, potting them firmly, and standing them in a position, if possible, fully exposed to the sun. By attention to these simple directions, during the last two seasons I had not five plants in five hundred which did not carry a good crop of fruit. It is very annoying, after growing the plants until they throw up their trusses, to have 25 per cent. or more which have nothing but leaves.

The best material for potting the plants in is good loam and rotted farmyard manure. I layer the runners in 3-inch pots, and shift into 6 and 7-inch pots as soon as the plants are established, and they ought to be all in their fruiting pots by the middle of August, whether for early or late forcing.—James Douglas.

CULTURE OF MARÉCHAL NIEL ROSE.

I quite agree with the Rev. W. F. Radclyffe that the Maréchal Niel Rose succeeds best against a south wall. I have a plant here which has had from fifty to sixty flowers on at one time, and some of them very large. It is generally in flower by the end of May or beginning of June, but the bushes in the open ground do not flower till a much later period, and grow more to wood. I find it is a Rose which likes to ramble, and to have only a little stopping and thinning. No one need despair of success with this beautiful Rose if he plant it against a south wall, and do not use the pruning knife much.—J. H. S.

ONION-GROWING ON LIGHT LAND DURING A HOT SEASON.

During the extreme heat of the summer of 1868, amongst other things which suffered with us were the Onion crops. Our general crop came up well, and held on well for some time. About the 10th of June we had a few very refreshing showers, being, indeed, the only rain which fell for months. I took advantage of these showers to transplant as many of the Onions as possible from the seed beds, leaving enough for a crop. This is a common practice of mine when I have any spare ground suitable for them. A piece of ground being fresh dug and well manured, I had it several times regularly and firmly trodden all over; I then drew lines 2 or 3 inches deep with a hoe, and into these I placed as many Onions as I could, at from 4 to 6 inches apart. The dull weather which prevailed favoured this operation very much, and besides this, I quite filled these little ruts with water directly after planting, and two or three times a-week afterwards. The Onions grew well and became a good crop. Of course, the edges of the little ruts crumbled in, and after the first hoeing became nearly level, consequently nearly covering the Onions when full-grown; but these, nevertheless, repaid all the care bestowed on them; whereas, scarcely any of those in the seed beds, although they had equally good treatment, grew larger than those generally used in pickling. I attributed the difference in the results principally to the fact, that the transplanted Onions were placed deeper in the soil than the others, so that their roots were not so much scorched during the hot weather which followed.—G. Dawson.

ORCHARD-HOUSE FAILURES.

With regard to the minimum temperature observed in the cast-iron orchard house at Scone Palace (see page 75), you must have misunderstood me. What I wrote I cannot now say. What I meant was 21° below the freezing-point, or 11° Fahr. Twenty-one degrees is so common inside the house during the flowering season, we think nothing of it. When speaking of freezing temperature we invariably say so many—so many degrees of frost, or indications under 32° Fahrenheit, being understood.

It might have been added that the said low temperature having been followed by a clear hot day, the maximum heat under the structure would range from 100° to 120°, from which it would appear that if sudden alternations from low to high temperatures, and *vice versâ*, are injurious, it will very much depend on what sort of heat it is.—H.

AMONG THE SWISS LAKES.—No. 3.

One of the peculiarities of alpine districts is the inability of the human eye to appreciate the vastness of the elevations. I was at the foot of the Jungfrau, which rises to the height of 12,852 feet, yet it certainly did not seem to me so much higher than Snowdon, which is only 3567 feet. One of the most striking evidences of great elevation is noted by Mr. Macmillan, who observes that on Mont St. Bernard, at an elevation of 8000 feet, "water boils at about 187° Fahr., or 25° sooner than the normal point; and in consequence of this it takes five hours to cook a piece of meat which would have taken only three hours to get ready down in the valleys." Though the total of the elevation is so difficult to appreciate, the steepness of their sides is not at all doubtful, especially to pedestrians. Yet on these slopes, which no Englishman could mow, hay is made; but as no vehicle could rest upon them, the hay is carried home in bundles, enclosed in nets on the backs of men and women. It is stored under cover, for, in this land of universal pasturage, such winter fodder is more valuable than the scanty grain crop. Pursuing any occupation under difficulties, invariably leads to assistant inventions which would never be suggested were the occupation untrammelled by obstacles. One instance I observed where watering was needed on a hill slope, and the crops were in drills. A narrow four-wheeled dray had to be employed for conveying the water. One large vessel for holding the water would have been unmanageable, so there were in the waggon three casks connected by leather pipes, and the water was delivered to the crop through a tap and hose attached to the end head of the last cask.

Wood is the universal fuel, and it is chiefly of the Beech, which usually clothes the base of each mountain, as the Abies excelsa, or Norway Spruce Fir, exclusively occupies its higher portions.

The cottage gardens are small, but well stocked with the vegetables most common in England. The only crop unusual with us, but almost universal in the Swiss gardens, is the White Beet. It also is peculiar to see large patches of Dandelion cultivated in corners of fields. It is used for salading.

Honey is a perennial occupant of the breakfast table, and is of excellent quality and flavour. The bee hives, all on the old pit-and-brimstone system, are ranged on a shelf against the side of the house, about 6 feet from the ground. I saw none otherwise placed.

The employment of the dwarf Palms as room plants has often been recommended in your pages. In Switzerland and other parts of continental Europe no such recommendation is needed, for they are so employed very generally. Even on the *table d'hôte* of every respectable hotel they are common. The Corypha australia is the species usually employed.

I have now turned over the last page of my note-book, and its first line is inscribed "Lausanne—Vevay." Indifferent

though they are, yet here are produced some of the best of the bad Swiss wines. Vevay is *the* vineyard district of the cantons. Here is "L'Abbaye de Vignerons," or Guild of Vine-cultivators; and its motto, "Pray and Labour," is an admonition applicable to all the affairs of life. This guild bestows medals and other marks of honour upon the most skilful Vine-cultivators. At intervals of about fifteen years, also, a public festival is held, in which the most successful of the vineyard keepers is crowned, and borne in a procession, accompanied by various characters associated with the history of the Vine—such as Bacchus, Noah, Silenus, Pomona, the spies who returned from Canaan bearing Grapes, and many others. On this occasion, too, the prettiest and most worthy maiden of the district is dowered and married to her accepted lover.—G.

PAPERS READ AT THE HORTICULTURAL CONGRESS AT MANCHESTER.

NOTES UPON ORCHIDS.

This is, undoubtedly, the city above all others in the United Kingdom, round which Orchid-growers seem to congregate, and many are the fine and extensive collections to be met with in the neighbourhood. I feel in opening this subject here I have undertaken a heavy task, though at the same time a very popular subject. When I first laid before the Orchid world a few simple rules for successful cultivation, very few Orchids were known, and their habits and mode of growth in a state of nature even less so, and the consequence was, they were found very difficult to establish in our plant houses. By steady perseverance, however, the mastery was gained over a few plants, which from time to time opened their curious, beautiful, and, in some instances, delicately-scented flowers, each fresh kind that revealed its beauties only increasing the desire for more. This desire has certainly been gratified in a most extraordinary degree during the last few years, by the immense quantities of Orchids sent to us from their native habitats by various collectors, until at the present time there can be little short of two thousand species in cultivation in European gardens, many of them producing flowers of surpassing beauty, whilst those of others are of small size and dull in colour, which, though not producing much effect, are generally exquisitely coloured, curiously formed, and present a beautiful appearance when viewed with a microscope or ordinary pocket lens. These small-flowered kinds will naturally enough be discarded by the amateur with limited space, but the whole of the species should be carefully preserved in our large botanic gardens, for none is more fully aware of the value of some of these small kinds for determining the limits of genera and species, and none knows the value of living specimens for this purpose better, than the systematic botanist. It is not my intention, however, to occupy time with the history of the introduction and establishment of tropical Orchids in European gardens, although many curious facts are connected therewith, but to offer a little advice upon their management—to repeat, it may be, the same things that many here may have heard me insist upon before, and which, therefore, are not new to them; but there may be many young beginners in Orchid-growing, who will, perhaps, find something to assist them in the prosecution of their hobby.

Orchids take first rank amongst all the plants cultivated in our gardens, for their extreme beauty and the peculiar and interesting structure of their flowers. They are found in nearly all parts of the world, and are divided into two large sections—viz., Epiphytal and Terrestrial. The plants comprising the first section are the most showy, and are found in tropical countries, growing in the forks, or upon the branches of trees, at various elevations, whilst the terrestrial Orchids are mostly found in the more temperate regions, burying their roots under the surface of the ground, many of them losing their growth during the winter months.

The growths of orchidaceous plants are called pseudobulbs; but it has occurred to me very frequently that such distinct forms of growth as Dendrobium, Odontoglossum, Cattleya, Sobralia, Grammatophyllum, Barkeria, Epidendrum, Catasetum, and many others which are equally dissimilar, require some more descriptive term than that which is applied indiscriminately to all. In the eastern world epiphytal Orchids are mostly represented by such forms as Vanda, Acrides, and Dendrobium, whilst in the western hemisphere thick fleshy growths are the rule. True, some few genera in the east, such as Cœlogyne, Bolbophyllum, Eria, and a few others represent this form, but they are exceptional. I do not intend giving in detail the cultivation of this my favourite class of plants, because my views upon this subject have been for some time prominently before the Orchid world, first in the pages of the *Gardeners' Chronicle* under the title of "Orchids for the Million," and more recently in my three editions of the "Orchid-Growers' Manual," and in Warner's "Illustrated Select Orchidaceous Plants." The conditions which I laid down at the very first were moderate heat, an abundance of fresh sweet air, and moisture, with full exposure to the light, but shaded from the direct rays of the sun, and I have never had any reason to change these rules. I carefully avoid extremes of temperature; by this means I seldom have a plant which shrivels, or becomes stewed with heat, or which is starved and perishes through cold; and by giving plenty of fresh sweet air, and keeping it properly charged with moisture, they never have the "spot." Spot is the great bugbear to Orchid amateurs, and, indeed, to many old-established Orchid-growers; but it need not be dreaded if the previously mentioned rules be followed, and care be taken that no rotten or rotting material is near the roots, either in the shape of sour stagnant moss or soil, or decomposed wood.

I am quite aware that some eminent men pronounce this disease infectious and difficult to cure, and that it is produced by the growth of a minute fungus. That the spot marks on the leaves are caused by a fungus I firmly believe, but I also as firmly believe that spot is the result of bad health, and not the cause of it; for before the fungus can gain a footing, the plant or plants must have been ruined in health, and have thus become a fitting receptacle for the spores of the parasite to germinate upon. Respecting its infectious character I am a total unbeliever. If plants in bad health stand with those which have already become spotted they will become infected as soon as any spores alight upon them, because they present the proper conditions for the germination of the spores; but if a healthy plant be set side by side with a spotted one it will not be harmed. This I have thoroughly tested with my own plants, and have had ample opportunity of watching it with other collections, and can therefore speak upon the matter with confidence. If a plant infested with spot be by chance introduced into a collection entirely free from the disease it may be readily cured, but not freed from the marks already upon the leaves. To destroy the disease let the plant be taken out of the material in which it is potted, or if on a block of wood let that be removed; then cut away every particle of decayed or decaying roots, wash the plant and roots thoroughly, and replace it in some good, sweet, living soil; at the same time attend carefully to the advice previously given regarding the atmosphere and temperature, and the probability is it will not be long before the plant is again in perfect health. I have adopted this treatment with perfect success myself for the last twenty-five years, and am therefore advising a system which I have thoroughly tested, and am not propounding a theory. Whilst speaking of theories, I cannot help here expressing my surprise that many of our leading Orchid-growers have been so reckless with their valuable plants, and have suddenly given over their whole collection in good health, to test some theory propounded by those who have probably never tried it themselves. I allude to such as double-glazed houses, exposing plants in the open air during frost, potting in cocoa fibre and in potsherds, and many other whimsical things. Many persons still fight for and uphold these practices, and are continually persuading their friends to adopt them. Now, my advice to all Orchid-growers is, If your plants are thriving, be careful not to risk their welfare for the sake of experiment. If you must test theories, do it with a few common plants, and not risk your collections as many have done during the past few years, for I can assure you I have seen several fine collections, both private and public, ruined because they have been subjected to trials of many theories of treatment.

It is a fact that many of the older cultivators of Orchids seem to have become indifferent to their charms, and in some instances have relinquished their culture entirely. One great reason for this has been the sickly appearance of the plants through excessive fire heat, which at the same time renders the houses unbearable, and consequently the plants have been discarded. Another reason has been through amateurs buying hundreds of newly imported plants of one species, which overcrowd the houses. No extra means of looking after them are provided, and when they become unhealthy through want of room and cleanliness they are discarded in disgust, because a thousand plants do not look so well in the same space, and with the same care, as a hundred did. The cool system, as it is called, has been another source of great annoyance to many, but if carried out in a proper manner it greatly enhances the value of this beautiful tribe. Many, however, have launched into extremes, and cruelly deceived young beginners especially, by assuring them that such and such species will grow in an ordinary greenhouse, or even out of doors. These assertions being acted upon, the plants naturally enough drag out a miserable existence, and ultimately die. Now, an ordinary greenhouse is a house in which Pelargoniums, Ericas, and Fuchsias grow and flower, and I deny the possibility of any epiphytal Orchid continuing long in health under the same treatment and in the same atmosphere as these plants enjoy. That many kinds will succeed in as low a temperature I readily admit, but they require less of the blazing sun. They must also have a much moister air, and the sashes of the house must not stand open, as they do under ordinary circumstances, otherwise the leaves will soon shrivel and curl up, when, as a matter of course, death soon follows: therefore I contend it is wrong to assert that epiphytal Orchids will succeed in an ordinary greenhouse. I find, almost as a rule, that the species enjoying a low temperature do not require a decided period of rest, like those from hotter parts, but that a temperature ranging from 45° to 50° in winter, with moderate moisture, and as little above 65° or 70° in summer as possible, will keep a vast number of those denominated "cool Orchids" in perfect health; and as I am of opinion that greater damage may result from the temperature sinking a few degrees below the minimum than rising above it, I never rush to the lowest possible degree; but if amateurs would take an interest in knowing something of the history of their plants and bring their reason to bear upon the facts, they would soon learn where and under what treatment they succeed best.

But whilst we are thus so strenuously advocating the cultivation of cool Orchids, I must put in a plea on behalf of the East Indian kinds from the low or hot parts, for I am under the impression many are discontinuing their growth because the houses require to be so hot, and are, therefore, not enjoyable. This, however, need not be the case; some of the most beautiful Orchids known are found among the Vandas, Aerides, and Saccolabiums, and they will both grow and flower profusely in a lower temperature than many imagine; in winter, with the house ranging from 60° to 65°, they will enjoy robust health, and in summer with 65° for the minimum. A collection of East Indian Orchids, which I saw recently, perfectly astonished me; the house was unbearable; I can compare it to nothing but an oven, and very little or no air was admitted. The consequence was, no one could remain in the place even a few moments with pleasure; indeed, if Orchids required such an atmosphere, I should myself be the first to discard them; and how men who profess to have a knowledge of these plants can commit such grave errors, it is difficult to understand; beginners might be excused for doing such things, but even they, one would imagine, would soon learn to correct such blunders.

With respect to terrestrial Orchids, comparatively nothing has been done; but, as a class, they have been very much neglected, for no other reason, so far as I know, than people imagine they are difficult to cultivate. This is the opinion of thirty years ago, and I do hope to see more of these beautiful plants grown than has ever yet been attempted. There are many Disas, Satyriums, Pogonias, Epistephiums, Habenarias, Pterostylis, &c., that we in our philosophy have never dreamed of, which will be perfect gems if properly established in our gardens. One cause of failure I have noticed, and that is the complete baking they usually get in the winter season. In their native habitats some roots will, undoubtedly, be deep in the moist soil, although the top is parched and burned. This is not taken into consideration, and the plants with us get dried to powder. Many of these kinds succeed well in cold frames, others thrive well with such plants as Odontoglossums, whilst others, again, require the warmth of the East Indian house. They require an abundant supply of water, with ample drainage to carry it away quickly, and insects must be vigilantly looked for and speedily destroyed. This applies to Orchids generally, otherwise they will soon fall into bad health. I consider it a sure sign the collection is larger than can be properly managed when the plants become infested with these pests.

In conclusion, I have no hesitation in saying no class of plants yield such gorgeous, chaste, elegant, and curious flowers, while none can compete with them for fragrance. The impression that Orchids are difficult to grow is fast becoming exploded, and I wish to destroy that impression entirely as speedily as possible, for nothing is farther from the truth. My own practice for very many years proves to me that if moderate artificial heat be applied, a liberal supply of fresh air given, which must be properly supplied with moisture according to the season, using for potting material good live sphagnum moss and fibrous peat, no difficulty whatever will arise in the cultivation of these plants.

In collections of any plants, death and disease will occur sometimes, and therefore a collection of Orchids should not be expected to be exempt any more than other classes of plants; but if care is taken this will be nothing serious, for they certainly will withstand more ill treatment than most plants before they quite die. In a few words, therefore, to keep your Orchids in a healthy and satisfactory state, I say, Provide moderate-sized houses for them in preference to large ones; give only a moderate supply of fire heat; let them be abundantly but judiciously ventilated, and the atmosphere sufficiently charged with moisture to yield nourishment to the plants, and everything in connection with them in a sweet and living state, avoiding anything in the shape of decay as one would a pestilence, and nothing more will be heard or said about the difficulties of Orchid cultivation.
—B. S. Williams, *Victoria Nursery, Upper Holloway, London.*

ON THE CULTURE OF CHRYSANTHEMUMS.

It is well known in the horticultural world that in the dull months of November and December the Chrysanthemum assumes an undoubted sway in the conservatory; and I am confident that all who have once witnessed the gorgeous panorama of colours which a conservatory full of well-grown Chrysanthemums presents at that dull time of the year, when flowers are so scarce, will agree with me when I assert that there is no decorative plant more worthy of general cultivation. It is, therefore, surprising to find that a plant so highly valuable for in-door and out-door decoration should not ere this have received more marked attention.

Since the introduction of the new Japanese varieties Chrysanthemums may be divided into three principal classes—viz., Large-flowered, Pompons, and Japanese. From Chrysanthemum sinense, introduced into this country from China in 1764, were produced our Large-flowered varieties; from the Chusan Daisy, sent home by that famous collector Mr. Fortune, originated the Pompons; and the new Japanese varieties were raised from seed by Mr. Salter, of Hammersmith, from Chrysanthemum roseum punctatum, a native of Japan, likewise introduced by Mr. Fortune.

In this paper I purpose to divide my remarks into two parts—first, that relating to out-door cultivation; secondly, on cultivation for the conservatory and for exhibition. I wish it to be distinctly understood that the observations which I am about to advance will be of a purely practical character, or confined to matters which have come under my personal experience.

In briefly alluding to out-door cultivation, after five years' practical experience in Hampshire and the same in Lancashire, I find by careful observation that the Chrysanthemum blooms nearly two weeks earlier in the former than in the latter county, and about ten days later in Perthshire and Forfarshire than in Lancashire. From this it will be seen that the Chrysanthemum will amply repay any labour bestowed on it out of doors from Lancashire to Hampshire, more especially in the southern counties, for with protection from frost a good display may be maintained from the beginning of November till Christmas; but much display cannot be expected from this plant cultivated out of doors in latitudes north of Lancashire, as in many parts of Scotland no reliance can be placed on its flowering at all out of doors, and in some places there in late seasons it requires no small amount of cultural skill to bloom it even under glass.

No grower has obtained greater celebrity as an out-door cultivator of this plant than Mr. Broome, of the Temple Gardens, London, where he grows thousands of Chrysanthemums annually, which are the daily admiration of thousands of visitors when no other flowers can be seen out of doors.

I will speak of the propagation of this plant, also of the treatment of the young plants, under the second division of my subject.

Presuming that the plants have been kept clear of insects during the winter months, they may be planted out in the open ground in the end of March or beginning of April. In preparing the borders for their reception it is necessary to deeply dig the ground, mixing with the soil some rich loam, a little well-decayed manure, and some lime rubbish. They will grow in almost any soil, but by this preparation better blooms will be insured. After the plants are fairly started into growth great attention must be paid to watering, for if they are allowed to flag they will become bare at the bottom. To prevent this, it is good policy to mulch well. When the plants advance in growth, in order to prevent the wind breaking them, they should be secured with sticks. Two stoppings will be sufficient for them in the south, but none is requisite in the north. They should be syringed with clean water twice a-day. In September they generally show their flower buds, at which time liquid manure should be supplied. That from the farmyard will be found suitable if no better is at command, if well diluted with clean water—say four or five times as much of the latter as of the former, according to strength. Reference will be made to this presently. They may have this liquid preparation at every alternate watering until the blooms begin to open, when it must be discontinued. Every available means should now be employed to preserve the beauty of the plants and to prolong their blooming period. This may be secured by covering up in frosty weather with tiffany, calico, &c. By attention to this, as I have said, a tolerable display may be kept up out of doors in mild winters till Christmas.

I now come to the second division of my subject—viz., cultivation for the conservatory and for exhibition, and I will submit the substance of my mode of culture in this county.

I may say that old plants cut down and treated the same as Pelargoniums, if they break well, generally make the best specimens; but they are not to be much depended on, for it frequently happens that when a plant is in full bloom one or several shoots die off suddenly, thereby spoiling the specimen. As early in November as suckers can be obtained from the old plants they should be taken off, with a little root if possible, choosing the strongest, and rubbing off all eyes at the bottom of the sucker, after which they should be inserted singly in thumb pots in a compost of one-half loam and one-half leaf mould, with a sprinkling of silver sand. After a gentle watering they should be placed in a cold frame, plunging the pots in ashes or any similar light material, keeping them close to the glass and well syringing for two or three weeks, when they will be found to be rooted. A little air may then be given, gradually increasing the quantity until the young plants are sufficiently hardened, and still syringing them frequently in mild weather. By the middle of December the roots will have reached the sides of the pots, when the plants may be shifted into 3-inch pots, using less leaf mould in the compost than formerly. After this time they must have plenty of air on all favourable occasions. Although they will not grow much in the winter months, yet if kept close to the glass and in a sunny situation, with a lining of hot manure round the outside of the frame, and covered up at night, they will keep gradually moving; for the sooner the specimens attain the desired size the earlier the stopping may be discontinued, thus giving the grower more time to thoroughly ripen the wood, which I maintain is of the very first importance in Chrysanthemum culture, and without which no grower can produce satisfactory results. As soon as the plants have attained the height of 4 or 5 inches their points should be pinched out, which will cause them to throw out several side shoots. All shoots after this time should have their points nipped out after they have made four joints, until the plants have reached the desired size.

About the middle of January the roots of most of the plants will again have reached the sides of the pots, when they should have another shift, using oyster-shells for crocks, and giving plenty of drainage. At this time I make up the compost which is used at every future shift. It is made up in the following proportions—three parts turfy loam, and the fourth part one half leaf mould and the other half pounded oyster-shells, lime rubbish, and silver sand in equal proportions. The

loam is pulled to pieces by the hand and wireworms destroyed. Where bone dust can be had it is preferable to oyster-shells, using it in the proportion of about 1 to 80. The system most generally adopted is to grow the plants to one stem, and now is a good time to rub off all eyes for 2 inches above the soil.

Towards the middle of February the plants will require another shift, always watering sparingly after shifting until the roots begin to work in the new soil. They will now begin to grow rapidly, when pegging-down must be had recourse to, continuing the same treatment, and fumigating occasionally to keep them clear of insects. About the middle of March they will be ready for another shift, after which any weak shoots ought to be allowed to grow upright for a time, so as to throw more strength into them, at the same time tying down the strong ones to counteract their inclination to grossness, for it is of primary importance to have all the shoots of uniform strength, otherwise there will be a diversity in the size of the blooms.

The grower must now decide in what shape he intends to train his plants. This should not be delayed too long, for as the season advances the shoots become harder, stiffer, and consequently more brittle, and frequently the breaking of a shoot at this stage spoils a specimen for the season. There are so many fantastic shapes into which the Chrysanthemum may be trained, on account of its extreme adaptability to almost any mode of training, that I refrain from recommending one more than another; I would, therefore, say, Let every grower train according to his requirements, or as his fancy may dictate. After trying the upright, squat, pyramid, standard, and convex forms, I will merely say that I have found the last a very simple and effective mode of training. Round the rim of the pot a wire is fastened, to which the shoots may be tied. In bending the shoots down, they may be left a little higher in the centre; one shoot can by this method be tied to another, and the framework of the specimen will, with very little trouble, be formed so that any future tying will merely consist in filling-in the spaces between the shoots.

By the last week in April the plants will, by good management, be ready to receive their final shift; the large-flowered ones into 12-inch, and the Pompons into 10-inch pots. The plants should now have plenty of room, and should be syringed regularly morning and evening. In May they should be gradually hardened-off, previous to being removed out of doors, by taking off the lights during the day.

About the end of May, or beginning of June, a sunny but sheltered piece of ground should be selected, and the pots should be plunged to three-fourths of their depth, placing a small inverted pot under each to secure good drainage and exclude worms, leaving sufficient space between the plants to admit light and air, otherwise they will become drawn, and weak unripe wood will be the result. The plants will require turning round once a-week. After the pots are full of roots, great attention must be paid to watering, for if the Chrysanthemum is neglected in this particular, it will tell its own tale by throwing off a shower of leaves almost as soon as any plant under cultivation, not only materially detracting from the beauty of the specimen, but exercising a very detrimental effect on the production of good blooms. During June, July, and August but little variation of treatment will be required, only the grower should endeavour to have his plants of sufficient size to enable him to give the large-flowered ones their last stopping in the first or second week in June, and the Pompons theirs in the second or third week.

In August earwigs and caterpillars must be looked after. The former may be caught by cutting bean stalks into lengths of 4 or 5 inches, placing them on the plants, and examining them in the mornings; the caterpillars must be sought for among the leaves of the plants. If the pots be this month lifted nearer the surface, it will facilitate the ripening of the wood; and if any of the plants be inclined to be gross, it will be necessary to withhold water to some extent, in order to ripen the wood before they show their buds, which they will do in the first week in September. Now is the time to apply liquid manure, and in my opinion the Chrysanthemum should never have any of it until it shows its buds. There may be a few exceptions to this rule, but many who profess to be good growers, and who like to see their specimens make luxuriant growth, administer liberal doses of liquid manure during the growing season; nothing can be more fatal to the formation of good blooms.

Disbudding should now commence; and in operating care should be taken in the selection of the buds to be retained, to choose the fullest and most healthy-looking, and leave only one on each shoot of the large-flowered sorts. Some of the Pompons, such as Bob, Mdlle. Marthe, &c., do best by disbudding to one bud on each shoot, and none of them should have more than three left on a shoot. Some of the shoots will be found to be more forward than others, and are apt to bloom before these; but by disbudding this may be avoided, by nipping out the crown or earliest bud of the earliest shoots, leaving a good side bud, and retaining the crown or earliest bud of the late shoots. This will cause all the buds to be equally forward.

About the second week in October the plants should be taken under glass—that is, into houses or pits where they can be protected from frost, keeping them cool and close to the glass, with abundance of air. If they are wanted for exhibition, the earlier varieties may be kept outside for a week or ten days longer, protecting them from severe weather; and, again, the late varieties may be kept in the warmer end of the greenhouse. The plants should now be watered five times a-week with liquid manure, applying it 5° warmer than the temperature of the house. This will concentrate the entire energies of the plants in the buds, which will now be swelling rapidly. Towards the end of the month the large-flowered kinds should be tied to neat green sticks, as the blooms will be too heavy for the shoots to support them. The Pompons will require little or no staking, but should be neatly tied-in, so as to present compact specimens.

In the last week of October, or first week of November, the buds will begin to show colour, when syringing and liquid manure should be discontinued. Any of the blooms that are at this time too late should be nipped off, as it is of importance that all of them should be at the same stage of expansion. I prepare my liquid manure in this manner:—I have a tub which will contain about eighty gallons of water; into it I put one peck of pigeons' dung, over which I pour some boiling water to kill insects, and add one peck of soot, and one peck of lime rubbish. I then fill the tub with liquid manure from the farmyard, stir the contents, and skim off the surface previous to use. I apply this liquid in the proportion of one to six of clear water.

In the autumn mildew is apt to make its appearance, to prevent which the leaves should be dusted with flowers of sulphur.

About the 20th of November the plants will be in full bloom.

By pursuing the foregoing treatment, the cultivator will be enabled to produce large-flowering specimens that will carry one hundred and fifty good blooms, which will require no dressing, and Pompons with from one hundred and fifty to four hundred and fifty blooms, according as they are disbudded; but it is imperative that the grower be to a certain extent an enthusiast, for without enthusiasm nothing great has ever been achieved.

If specimen blooms are wanted, the plants should not be stopped at all, but the side shoots should be allowed to grow upright, disbudding to a limited number on each plant; the fewer left the larger the blooms will be. Treat the plants in every other respect as recommended for specimen plants. Incurved varieties are best for this purpose. They are also more in request now for specimen plants. Some of the sorts, such as Golden Trilby, Princess of Wales, &c., do much better in some years than in others.

Anemone-flowered varieties, although more tender than the others, are very beautiful, and well worth growing.

I will not occupy time by giving a list of what I consider the best varieties, as the various catalogues sufficiently describe the most desirable.

In conclusion, I consider the new Japanese varieties a great acquisition to the conservatory, for although they do not come up to the standard of what is called a "florists' flower," they possess the much-desired quality of being late bloomers. This, then, is already one point gained, for it is a greater desideratum to have late-blooming Chrysanthemums than early ones, as flowers are not so scarce in the autumn months as they are in January and February; and as the natural blooming time of the Chrysanthemum is November and December, something is wanted that will bloom naturally for two or three months after Christmas. This, I think, will soon be accomplished by improving on the Japanese varieties. It is true that by growing some of the early and late kinds, and with the assistance of forcing and retarding, the blooming season of the Chrysanthemum may at the present time be extended from September till February; but as it is forced or retarded its blooms will be proportionably inferior, for it despises the forcing pit as much as it dislikes the retarding house, thus affording one more proof that Nature will not be trifled with in any of her grand and varied arrangements. I trust that not only a greater stimulus will henceforth be given to the cultivation of the Chrysanthemum than has hitherto been accorded it, by offering more liberal prizes for it at exhibitions, but that encouragement will be held out to raisers of late-blooming kinds by offering premiums for late varieties of the Japanese race, whose natural blooming time will be from Christmas onwards, and I have no doubt that we shall have the blooming season of the Chrysanthemum carried fairly into March. It will then, with its beautiful and diversified colours, monopolise in brilliant array the most distinguished places on the stages of the conservatory, for at least four or five of the most dismal months of the year. I hope that such a time is not far distant, and that this truly magnificent flower will occupy that superior standing in the floral kingdom which it so well deserves.—R. FLEMING, *Gardener to R. Houghton, Esq., Sandheys, Waterloo, Liverpool.*

SMOKE VERSUS VEGETABLE LIFE.

HAVING been employed for more than twenty years in the midst of a manufacturing district, during which period trade has very much increased, and having, therefore, for that length of time had to contend against a gradual increase of smoke and other vapours which are very injurious to vegetable life, I will venture to lay before you a few plain remarks how that offensive and polluted atmosphere has to a certain extent injured, and in several instances destroyed, some of the trees, &c., in this locality.

When I first came to live in Warrington the air was not so full of smoke and other injurious gases as it is at the present time. Some species of plants which then flourished have now disappeared. I have noticed that as manufactories have increased, one species of plant after another has gradually declined in health, and in some instances they are mere skeletons of what they formerly were, giving a desolate appearance to that country which they once beautified.

We all know that some plants are much more sensitive than others to injurious chemical matters in the atmosphere. When I came to my present situation the Fir and Larch were healthy; these were the first to give way, and the first which had to be cut down. Cotoneaster microphylla next died; the Arbor Vitæ, Juniper, Erica, and common Rosemary followed, and what few now exist of these are in a wretched condition; so is Berberis ilicifolia; the Yew, once very vigorous, is all but destroyed; the Rose struggles hard for existence; the Holly is giving way; and none of the Conifers, if planted in these grounds, will live more than two or three years. Many of the forest trees that flourished twenty years ago are gradually becoming weaker every year, as the air becomes more and more filled with obnoxious vapours, and some of them are affected sooner than others. The Sycamore, more particularly the variegated variety, is very tender, it suffers severely; the Hornbeam is fast decaying; the Horse-Chestnut grows vigorously, but is often severely cut while the foliage is young, and never worse than at present; and the Beech and Lime tree are somewhat stronger than the above, though very far from being healthy. The Ash seems to stand best, and the Elm the next; but all of these are dirty, and are injured to a considerable extent.

Among fruit trees, the Pear appears to stand best, but is not up to the mark, and the Plum and Damson moderately well, but they are giving way. The Apple is suffering very much; only young trees are at all vigorous, and these not satisfactory; the full-grown trees are very bad, and the fruit very inferior. The Red and White Currant have suffered severely, being very subject to the attacks of aphides; the leaves then become covered with an adhesive substance, the soot coats them over and chokes the pores, and the leaves falling off in summer, the wood cannot get matured, and the plant ultimately dies. Our Currant trees, that a few years ago were healthy and produced very fine fruit, are now quite ruined. The Raspberry stands pretty well in more favoured times—that is, when the air is moderately free from smoke. The Gooseberry is inferior. The fruit of all these plants would soon be detected in the market as having been grown in a smoky atmosphere.

Many vegetables which grow strongly do well in summer, but when the autumn sets in the air is so heavy, and filled with poisonous gases, that they soon decay. Kidney Beans sometimes drop off as early as October. Cauliflowers do not stand any frost here as they do a short distance from town; even common Winter Greens are injured to a considerable degree, and it is only in very mild winters that the Broccoli keeps alive.

Many half-hardy flowering plants do not prosper. The Pelargonium, which grows the best here, has the flowers often discoloured during the night, if the barometer is low and the air charged with chemical vapours. A few plants stand pretty well; the Rhododendron, Aucuba japonica, and the Hawthorn flourish here. Some species of plants suffer in all parts of the garden, others only in certain parts. Where the Hawthorn, Rhododendron, and Yew are planted side by side, the first two are healthy, the Yew almost dead. We find, too, that where some of the delicate plants are considerably sheltered from the passing vapours, they are somewhat healthier than those more exposed to smoke.

The above remarks have reference only to the grounds on which I am employed, and which are peculiarly situated. Some time ago the town lay to the east and north of the hall and gardens, but now they are surrounded on all sides except directly to the south. Trade gradually increased, and during the last three or four years has rapidly progressed, therefore smoke has progressed too. Some of the works are of a very disagreeable kind, dispersing very obnoxious smells throughout the town, and unquestionably doing a great deal of harm to vegetable life. I have been on the grounds at all hours of the morning and night, and have felt the disagreeable vapours pass in a body when there has been scarcely a breeze; this has been when the atmosphere was heavy and foggy, and it is on occasions like this that the flowers are found to be discoloured in the morning. Sometimes we find the foliage while in a young state cut in a straight line, and this suddenly. Under all circumstances, the trees in the town cast their leaves at least six weeks before those in the surrounding districts, where there are no manufactories. When the wind is from the east we do not suffer so much as when it is from the west, for in the former case it is often sharp, and carries away the smoke, but in the latter it is soft, the air heavy and moist, and the smoke falls quickly to the ground, hanging among the trees, and passing away very slowly; therefore the plants suffer more.

That some works are more deleterious than others we have sufficient proof. On the east side of the town a firm of long standing has lately introduced a fresh branch into its trade. Close to these works are the rectory grounds, which, as well as the land adjoining, are wretched in the extreme; forest and fruit trees, shrubs, &c., are dead and dying: only such as are screened from the works are fit to stand, and even these are looking badly.

The outskirts of Warrington are somewhat better. Several Conifers that will not live at all with us are found in some of the gardens, but not in a satisfactory state. If we go six miles west we come to one of the most desolate places one ever saw, trees and hedges being killed for a considerable distance. The Thorn and Elder appear to be the hardiest; miserable relics of these are nearest to this rising town—Widnes, where chemical works are numerous. If we go eight or nine miles north-west we come to St. Helen's, another town spreading desolation; trees are dying for miles away from it. East and southward of Warrington, where no works are, the country is fertile and the foliage rich.

Plants with smooth, glossy leaves, of vigorous habits, grow best in Warrington. The Oak looks as well in the town as the country, for all of us know this tree in many parts of the country is decaying. With us the Laburnum flourishes, so do the Syringa, the Willow, the Birch, the Ivy, and the Elder. The Privet grows moderately. All vegetables must be vigorous, otherwise they will not stand the smoke. Thirty years ago the farmer grew large quantities of Ridge Cucumbers in the fields, but now he cannot grow them. Gourds will not now grow in the town, unless when the season happens to be favoured by a less amount of smoke than we have on an average.

Under circumstances such as these we can only do our best to grow such plants as will withstand the evil, and ask the manufacturers to assist us by reducing that evil as far as they are able, by consuming the smoke. Some have done so here to a great extent; we must hope others will follow in their steps. We do not know how much might be done through a persevering, ingenious man; many wonderful things have been accomplished, and we cannot tell what may yet be done. The earth is not only given to us for usefulness in bringing food, but also for producing things of beauty and adornment, and it is the duty of every man to try to accomplish these ends.—E. Green, *Gardener to Col. the Right Hon. J. Wilson Patten, M.P., Bank Hall, Warrington*

ROYAL HORTICULTURAL SOCIETY.

August 17th.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Veitch & Son sent parcels of their Improved Ash-leaved Kidney Potato, which was found at Chiswick to be very prolific, and when cooked very floury. Mr. Thomas, of Shrewsbury, exhibited a seedling raised from a cross between Arrowsmith's Seedling and Fluke. This is a roundish Potato. Mr. Earley, of Digswell, sent a bundle of Short-horn Carrots, which were highly commended by the Committee for their unusual size. Mr. Eckford, of Coleshill Park, sent a large Lettuce under the name of Coleshill Park Lettuce, which proved to be the Florence Cos. Mr. R. Smith, gardener to T. Nicoll, Esq., Wembly Hill House, Sudbury, sent a Cucumber, supposed to be Long Gun, 28 inches long; but as it was quite ripe, its length was its only attraction. Messrs. F. & A. Smith, Dulwich, sent fruit of Surrey Prolific Cucumber, a good, solid, and heavy variety, not of great length, but of general utility. Mr. Baker, of Honiton, sent two varieties of Cucumber, called Eclipse and Bowden's Long, neither of which was considered an improvement on existing kinds.

Mr. George Lee, of Clevedon, near Bristol, sent branches of Lee's Prolific Black Currant, which obtained a certificate at last meeting. These were sent to show that the fruit hangs well on the tree. The fruit maintained all the good properties which it exhibited at the previous meeting. Mr. McLaren, of Ash Common, Surrey, sent fruiting branches and a dish of fruit of a seedling double-bearing Raspberry, to which a first-class certificate was awarded for its robust habit, fertility, and size of the fruit. Mr. Cooling, of Bath, sent fruit of Brailbrook Seedling. This Apple has been sent on various occasions, but never before in condition to enable the Committee to form a decided opinion. It was now shown in good condition, and in the opinion of the Committee was not of sufficient merit to warrant a certificate. Mr. Dry, of Hayes, Middlesex, sent a dish of a seedling Plum, which has been several times before the meeting. It is a large, oval, purple Plum, of excellent flavour, early, having been grown as a standard. It was awarded a first-class certificate, and was named Dry's Seedling. Mr. Fenn, The Rectory, Woodstock, sent twelve sorts of Gooseberries, to show that some of the largest size are not so deficient in flavour as it is generally supposed they are. The whole of the varieties sent being rather over-ripe, the Committee could not form any judgment on their merits. Messrs. Lee, of Hammersmith, sent fruit of the Royal Vineyard Fig, a medium-sized, long, grizzly Fig. The flavour was good, but it was recommended to allow any opinion upon it to stand over for a fortnight, when the collection at Chiswick will be in fruit, and a comparison can be made. Mr. W. Bull, of Chelsea, sent fruit of a scarlet-fleshed Melon, called Nonpareil, which did not possess sufficient merit.

Messrs. Standish, of Ascot, sent a dish of Gloede's Perpetual Pine Strawberries, from runners planted in May. Mr. McIndoe, gardener to the Archbishop of York, sent a dish of large and very fine fruit of St. Ambroise Apricot, which were highly commended. It is a large, handsome Apricot, inferior in flavour to Moorpark, but is a fortnight earlier. Mr. Fairbairn, gardener to W. Death, Esq., South Lodge, Bishop Stortford, sent a splendid fruit of Enville Pine Apple, weighing 9 lbs. 5½ ozs. It was awarded a special certificate for superior cultivation. Mr. Carmichael, gardener to H.R.H. the Prince of Wales, sent a bunch of Muscat Champion Grape, the berries of which were of very large size, and the flavour excellent. Alexander Scrutton, Esq., of Blackheath Park, sent three very fine bunches of Black Prince Grape. Mr. Goode, of Melchet Park, Romsey, sent three large bunches of Duchess of Buccleuch Grape. Mr. Melville, of Dalmeny Park, sent fruit of a seedling Grape, which was so much damaged as to destroy the flavour. Mr. Pearson, of Chilwell, brought several varieties of seedling Grapes, three of which were considered

by the Committee to possess some merit, and recommended that their cultivation be continued. One was a white with a long bunch and a Frontignan flavour, another with a Muscadine flavour, and one somewhat in the way of Morocco. There were besides five other varieties, some of which were raised from the Strawberry Grape, the flavour of which was particularly rich and novel. The Committee highly commended the collection, and were of opinion that the three first noticed should receive special attention.

Floral Committee.—Rev. J. Dix in the chair. This was one of the best meetings of the year. The exhibition of Gladioli and the good old Hollyhock were a treat in themselves, and had there been proper and sufficient space for them, they would have been much more effective. Of seedling Hollyhocks there were none of sufficient merit, or superior to older kinds. Messrs. Kelway were awarded three first-class certificates and one second-class certificate for seedling Gladioli. There were many other seedlings sent, but far behind those which received awards.

Mr. Bull received first-class certificates for Encephalartos grandis, Encephalartos plumosa, Macrozamia excelsa, and a new gigantic form of Aroid, introduced by Dr. Seemann. The plant was recognised, but the specific name could not be remembered. A special certificate was awarded Mr. Bull for a collection of Orchids. Mr. Williams, Holloway, received a special certificate for a collection of Orchids, and a special certificate for a finely-grown specimen of Lapageria rosea.

Mr. Green, gardener to W. W. Saunders, Esq., received a first-class certificate for a most graceful climbing Asparagus. This plant was trained on a strong cord, to which it readily attaches itself, and enables the cultivator to adapt it to any situation he pleases without any fear of breaking or injuring the plant. Messrs. Downie, Laird, & Laing received first-class certificates for hybrid Nosegay Zonal Pelargonium Lady Hawley, dark crimson; also for Stanstead Rival, a light orange-scarlet Zonal. Mr. Goode, gardener to the Dowager Lady Ashburton, received a special certificate for the finest specimen of Lilium auratum ever exhibited. One bulb had divided into ten or eleven flowering stems, producing one hundred and fifty flowers. It was most magnificent; it was one of the pale-spotted varieties. It was commended as worthy of the Lindley medal, which was unanimously awarded. The Society must feel deeply obliged to the Lady Ashburton for her kindness in sending so valuable a plant to the meeting; the packing and conveyance must have entailed considerable trouble. A fine specimen of Lælia elegans Turneri, exhibited by the same lady, was awarded a special certificate.

Messrs. Lee, Hammersmith, received a special certificate for a collection of succulent plants, consisting of Echeverias, Sempervivums, &c.; they also sent a collection of Centaureas, which were not considered sufficiently distinct. Mr. W. Paul, Waltham Cross, was awarded a first-class certificate for a very useful decorative shrub, Euonymus flavescens. Mr. C. J. Perry, of Castle Bromwich, received a first-class certificate for Verbena Ada King, and a first-class certificate for Thomas Lawden; Messrs. Kelway similar awards for seedling Gladiolus Medina, Cherub, and Accius; and a second-class certificate for Freemason. Mr. C. Chater, Saffron Walden, was awarded a first-class certificate for a new, dwarf, beautiful, free-flowering Ageratum, Imperial Dwarf. This was much admired, and will prove extremely useful for bedding purposes. Mr. Eckford, gardener to Lord Radnor, Coleshill, received three first-class certificates for seedling Verbenas of considerable merit—viz., Harry Eckford, Eclipse, and Lady Anne Speirs.

Messrs. Veitch exhibited a large and beautiful collection of Gladioli not for competition.

Mr. Porter, gardener to E. Benham, Esq., sent seedling Hollyhocks. Messrs. Lee exhibited a showy tricolor Zonal Pelargonium called Edward Milner; Mr. W. Paul four seedling Zonal Pelargoniums—Sultana, Lord Falkland, Empress, and Comet; also an evergreen shrub from Japan, name not known, to be seen again. Mr. Perry exhibited sixteen seedling Verbenas; two only received certificates. Messrs. Kelway sent nine seedling Gladioli, four of which were awarded certificates. J. Sladden, Esq., Ash, Kent, sent several seedling Gladioli. Messrs. Bunyard, Ashford, Kent, sent four seedling Gladioli—viz., Stella, Marguerite, Clipper, and Fawn, the latter novel in colour, but with no other recommendation. Mr. Jenks, gardener to D. Larnach, Esq., sent seedling Zonal Pelargonium Brambletye, a pale pink. Mr. C. Turner sent three seedling Dahlias—Mrs. T. Colman, Charles Lidgard, and Kensington, all of which were requested to be seen again. Mr. George, Putney Heath, exhibited Nosegay Pelargoniums Gem, Brightness, Northern Star, Minster, and Perfection.

The first prize for twenty-four spikes of Gladiolus was taken by Messrs. Kelway & Son, of Langport, Somerset, with very fine examples of Meyerbeer, Prince Imperial, Le Titien, Thomas Moore, Prince of Wales, Picciola, Sansparcil, Marie Dumortier, Accius, Gipsy Queen, Félicien David, Senator, Cherub, Picotee, Thomas Methven, Eurydice, Montaigne, Queen, Rossini, and Folton. The spikes in this collection were supported by brass rods placed lengthwise between the rows. The second prize was withheld, and the third awarded to Mr. J. Sladden, of Ash.

Class 2 was for twelve spikes. Here again Messrs. Kelway were first with a fine collection, in which, besides kinds already named, we noticed Emile, Molière, Apollon, Madame Desportes, a splendid new white variety; Freemason, which received a second-class certificate; Albert Victor, Flavia; Medina, which received a first-class certificate, in colour white tinged with lilac at the edges. The second prize was withheld, and the third awarded to Messrs. Bunyard & Son, of Maidstone.

Class 3 was for twelve spikes, and for amateurs only. Here Mr. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, was first with excellent spikes of Achille, Velleda, Princess Alice, Homère, Impératrice Eugénie, Madame Victor Verdier, Madame Furtado, Rossini, Madame Desportes, Adolphe Brongniart, Princess Mary of Cambridge, and Thomas Methven. The Rev. H. H. Dombrain was second, and Mr. Sladden third.

In Class 4, for six spikes, the Rev. H. H. Dombrain was first with Impératrice Eugénie, Milton, Madame Dombrain, Homère, Shakespeare, and Dr. Lindley. Mr. J. Sladden was second with seedling Crown of Gold, Monsieur Legouvé, Marie Dumortier, Dr. Lindley, and Thomas Methven. Mr. Douglas was third.

There was a good show of Hollyhocks. Mr. W. Chater and Messrs. J. J. Chater were respectively first and second for six cut spikes; and the same firms took the same relative positions for twenty-four cut blooms, Messrs. Kelway being third. For twelve the Rev. E. Hawke was first with beautiful examples of Ruby Queen, Willingham Model, Octavia, Phryne, Tournament, Alba superba, Ida, Caras Chater, Ivanhoe, Senior Wrangler, Acme, and Harold. Many of these are of Mr. Hawke's own raising, and the blooms exhibited were worthy of his high reputation as a raiser and grower of this flower.

Many complaints were made this day, and very justly made, that there was no accommodation in the way of tables on which exhibitors might arrange their flowers; it will be admitted it is not a pleasant thing to kneel on hard stones to arrange specimens of Gladioli and Hollyhocks, or any other cut specimens. This omission of preparing tables for putting up flowers must not be forgotten. The complaint made can easily be remedied; and when the Society is so well and kindly supported at these interesting meetings by amateurs and nurserymen, their request for this accommodation we feel sure will be in future complied with.

A meeting of the Committee was also held at Chiswick on the 10th inst., the Rev. J. Dix being in the chair. The Committee met in full force on this occasion, but the trial plants were far from being in a satisfactory condition; some of them were received very late in the season, others had suffered from the late frosts. The Committee propose shortly to hold another meeting at Chiswick, when the Zonal Pelargoniums will be in better condition. A few awards were made among the Bronze Zonal section. The Moor, Plutos, and the Rev. W. F. Radclyffe received first-class certificates. There is a great sameness in these Bronzes; as with the Tricolor Zonal, it is difficult to meet with anything new and distinct. Amy Richards, a seedling from the gardens, a robust Tricolor Zonal, received a first-class certificate as being of good constitution. Sir R. Napier, a distinct dark-zoned variety, also received a first-class certificate. There were many others the characters of which were not fully developed; they will probably receive rewards at the next meeting. Miss Kingsbury, a favourite Silver Bicolor, was in fine condition, and received a first-class certificate; and the same award was made to Beauty of Lee, a bright rose flower; Advancer, a deep rose flower; and William Underwood, a well-formed scarlet free-flowering variety, useful as a bedder.

The Committee was much pleased with a collection of Pentstemons, and among them with the light blue Pentstemon Jefferyanum. Owing to some confusion in the names no awards were made. These beautiful decorative plants are to be re-arranged for another season. It is much to be desired that the contributors of trial plants would send them earlier to the gardens, as in many instances justice cannot be done them. A collection of double Zonal Pelargoniums, under glass, met with much approbation. They had been well taken care of and neatly trained, and the plants were well covered with flowers.

General Meeting.—W. Wilson Saunders, Esq., F.R.S., in the chair. Two new Fellows were elected; one of them was H. Whitworth, Esq., the Secretary of the Manchester Botanic and Horticultural Society, in recognition of his assistance in connection with the Royal Horticultural Society's Manchester Show. The Committee awards having been reported, the Chairman, in the absence of the Rev. M. J. Berkeley, remarked on such of the plants as were of the greatest interest and beauty. Foremost among these was the magnificent specimen of Lilium auratum, from Mr. Goode, to which the Lindley medal was awarded. As this species of Lily had already exhibited a considerable tendency to produce variations in its markings, Mr. Saunders said he could not help thinking it offered a good basis for hybridisations, in order to add colour to its shape and fragrance. The collections of Gladiolus were next referred to as affording glorious colours, as well as the rapid rise of the flower in public favour. The Hollyhock, likewise, was touched on as exhibiting a charming diversity of colour, although when first introduced only a single flower, and it was recommended to anyone in want of a good effective plant for a border. Of the fine Amorphophallus, with a splendid snake-like-marked stem, shown by Mr. Bull, Mr. Saunders remarked that large as the head appeared, it consisted of but a single leaf. He had several species, and one closely allied to it, but not the same. They produced only one or two leaves. After pointing out the fine specimen of Lælia elegans Turneri, and Mr. Chater's dwarf Ageratum before alluded to, the latter of which he considered would be the admiration of thousands in bedding arrangements, Mr. Saunders passed on to the

climbing Asparagus from his own garden, and which had been sent home to him by a collector in his employ some years ago. Mr. Saunders stated that the plant grew to an enormous length, and he did not know what to do with it till he hit on the plan of growing it on cords tied to the rafter of the house, and which it soon runs up. One great advantage of this system of training was, that if desired, the plant could be moved from place to place by taking the cord down, which, with the plant, could be wound round the arm, but such was not the case when sticks or wire were employed. Many plants could be trained on cords; indeed, this was the best system for succulent climbers. Another plant, though not exhibited trained as a climber, but which in reality was a climbing Lily, being very closely allied to that family, and having been called Lilium gloriosum, was the Gloriosa from Mr. Clews. He thought all climbing plants should be exhibited trained as climbers; but perhaps he ought to make an exception of the Lapageria, of which Mr. Williams had sent a glorious specimen trained on wire, as it attained too large a size for exhibition in any other form.

SOIL FOR GRAPES.

I WISH to confirm the statement of your correspondent, "G. S.," in your Number of August 12th, page 124, by saying that my father possessed several vineyards at Vernone, near Turin, in Piedmont, planted on very calcareous soil. These vineyards were celebrated in the vicinity for fine crops of Grapes, producing superior wine; indeed, it commanded a higher price than neighbours around could obtain for their wines.—LEONARD HARMAN, JUN.

FINSBURY PARK.—We had always supposed that the design of the Finsbury Park was due to Mr. McKenzie who also designed the Alexandra Park; but having seen in the morning papers that Mr. Vulliamy claimed to have been the author of it, we were last week led to repeat his statement to that effect. We are since assured by Mr. McKenzie that to him alone the design of the park is attributable, and that the lodges, gates, fences, &c., belong to Mr. Vulliamy.

CUCUMBER CULTURE.—No. 8.

CULTURE IN POTS.—A very desirable method of growing Cucumbers for late autumn or early winter fruiting is in pots, as in this case they need no particular spot assigned them, but can be fruited in any house with the proper temperature. In pots, too, the plants generally fruit much earlier than those in borders, but they do not attain the same amount of strength, or continue so long in bearing. In spite of this, however, it is always a consideration to have a few fruits early; and if plants were not grown in pots they might not be grown at all for early fruiting, owing to want of room. Pot plants are more easy of accommodation than those planted-out, as the latter require both a border and plenty of space for their development.

Seeds sown in pots about the beginning of September will produce plants which will fruit in November; and for a succession it is best to sow on the 1st day of the month, and again on the 21st. If, however, a sowing was made at the beginning of September for planting-out, the second sowing in pots may be dispensed with, as the plants will bear at the same time; but if seeds be sown at the above two dates, sowing for planting-out may be deferred until the middle of October and 5th of November. Either of these plans will maintain a succession of fruit throughout the winter, spring, and summer; thus—1st of September sowing for November fruiting; 21st of September for January. Both of these sowings are for culture in pots. The 12th of October sowing is for fruiting about the end of February and on through the summer; but the early September sowing, one lot being potted and the other planted-out, will produce a like result.

The method of raising plants for pot culture does not differ from that pursued in raising those for planting-out. As regards the size of the pot, in a small pot we often obtain a much less development of foliage along with fruit equal to those produced in larger pots. I like a good-sized pot, and consider one 13 inches in diameter not too large. The drainage should occupy one-sixth of the depth of the pot, placing merely one crock over the hole, and for the remainder using lumps of charcoal free of dust. Some of the rougher parts of the soil should be placed over the drainage, both together occupying one-third of the depth of the pot. The plant is turned out with the ball entire into the centre of the pot, and the soil gently pressed round, space enough being left for surface-dressings. If bottom heat can be obtained, let the pots be plunged, or if there is a border let them stand on that rather than on a shelf or stage. Their position must be well exposed to the light, and they should be trained as near as possible to the glass, but without touching it. As the object is early fruiting, the plant should be stopped at least twice previous to being placed in the fruiting pot. It will show fruit before it has made a very long shoot, when it should be stopped one joint beyond the fruit. When there are two or three fruits, it will be well to keep each growth closely stopped to one joint, so as to have most of the foliage above the fruit. It is, however, desirable to retain a shoot near the base of the plant, so that when the fruits are cut from the upper part, the latter can be cut off down to the shoot at the base, which can be trained in its place, and will fruit even more freely than its predecessor.

As the plant advances it will put out roots near the surface, but should none appear after three weeks, I add about an inch of fresh soil every week until the pot be filled to the rim, and this will be sufficient to enable the plant to bear fruit large enough for cutting. The length is not a matter of so much consequence as the fruit being grown in a short time, and therefore crisp and free from bitterness; indeed, Cucumbers which are not of great length are generally the best in these respects.

When the first fruits are cut, some wait for the small ones to swell, which they often do, having a long shank-like neck, with a knob at the end, like a club. As these are worthless, I cut off the old foliage, and encourage the young shoot from the base. As we thus destroy the balance between the shoots or foliage and the roots, gangrene might ensue; but we remove the surface soil, picking out with a piece of wood as much as we can from amongst the roots and around the sides of the pot, and replace it with fresh. The soil is kept no more than moist until the foliage has progressed, and there is a greater demand for water; then all goes on as before. As we cannot top-dress without raising the soil above the rim of the pot, the latter is encircled with a rim of zinc, but I prefer myself one of turf, cut about 2 inches thick, and about 2¼ or 3 inches broad. The roots thrive in this, and rapidly pervade the soil, which is put on between the stem and rim of turf, becoming at length closely matted in the turf. This should be placed grass side downwards, and is in proper condition when it has lain until the grass is dead, the fibres being then in a nicely decomposed state, which, with air, is very beneficial to Cucumber roots. This top-dressing may be repeated as often as required, to secure the swelling of any fruit that may be upon the plant, but it may be discontinued after two or three have been swelled off, when the best plan is to start the plant again, cutting it down nearly to the base, and training young shoots in place of those cut away. The old top-dressing should be removed to the rim of the pot, and replaced with fresh, according to the growth. In this way the plants will continue in bearing for a long time, and in summer may be grown in houses, which can be kept sufficiently close and moist without injury to the other occupants; indeed, they will thrive in a cool house from May to October, and give finer fruit than in a heated structure if there is an abundance of light, and sun heat is husbanded by the early opening and closing of the house. A few plants may also be grown in a vinery when it is not convenient to devote a pit or house to their exclusive cultivation for the time. It is not necessary to employ the size of pot named, smaller will do. I have fruited Cucumbers in 7, 9, 11, 13, 15, and 18-inch pots; but for general purposes I like the 13-inch pot best—in fact, such a size of pot will afford nutriment for the swelling of two, three, or even more fruit per plant. I do not like to take more before cutting down or discarding the plants, as I advise when fruit can be obtained from those planted out in beds or borders.

When Cucumbers are grown in pots, the supply of water should be copious, not giving it in such quantity as to convert the soil into a saturated mass; do not let the soil become so dry as to cause the leaves to flag, but when water is required give enough to thoroughly moisten the soil. When it is necessary to increase the vigour of the plants or to swell the fruit, liquid manure may be given at every alternate watering.

For furnishing fruit in autumn and early winter it was formerly a practice to have the plants raised from cuttings in the last week of September or first week of October, and in the pots they are to be fruited in. For these 9-inch pots answer tolerably well, whilst 11-inch pots are equivalent to 13-inch pots for seedlings, as the cuttings do not grow so vigorously as plants from seeds. The pot may be prepared as described for the seedlings, and the cuttings inserted in the centre. Select for cuttings the growing points or tops of vigorous shoots; cut

them off 4 or 5 inches long below a joint, and remove the leaf, and so far up the shoot as will be inserted in the soil. Make a hole with a dibble, drop a pinch of sand into the hole, then introduce the cutting and fill up the hole with sand. Fine charcoal is better than sand. A piece of glass is placed over each pot, and the pots may be set in the places where the plants are to fruit. If due regard be paid to keeping the soil moist, the cuttings will be well rooted in a fortnight; then remove the pane of glass by degrees, and the plants will grow rapidly; soil being added, as roots push from the stem, until the pot is full. The fruit will be fit to cut before Christmas, when the plants may be cut down to the lowest joint, the surface soil removed, fresh added, and the plants in all respects treated as described for those from seed in pots. Plants from cuttings will endure a drier atmosphere, and are neither so succulent nor so liable to suffer from cold as seedlings; they will bear a temperature of 5° lower than seedlings and a drier atmosphere, and are not so liable to damp off, otherwise we do not see their advantage. By taking off cuttings at intervals the plants become, as it were, perennial. I know of one instance in which they were continued by cuttings successively for three years and a half, but then the deformity and uselessness of the fruit were abundant evidence that the natural limit to the existence of the plant had been exceeded.

As one, or at most two sorts of Cucumbers are enough to grow, I give the names of half a dozen which I have proved come up to the standard of merit—viz., "Length, not less than 12 inches; diameter, one-ninth of the length; colour, dark green; spines, black or white, and numerous; bloom, unremoved; circumference, circular and equal throughout; neck and nose, each not more than a diameter long; flesh, crisp and juicy; flower, remaining on the fruit."

For Winter and Early Use.	*For Summer.*
All the Year Round (Dickson's)	Newton Hero
Telegraph (Rollisson's)	Hamilton's Needle Gun
The Coleshill	Dale's Conqueror

Those named for winter and early use are equally eligible for summer culture.—G. Abbey.

RENDLE'S PATENT PLANT PROTECTORS.

It is now hard upon thirty years since Mr. W. E. Rendle introduced "the tank system" of heating horticultural structures; and although the novelty of this cheap and efficient system has passed away, there are many who still adhere to it as in their estimation the best and most economical. That the tank system is the best for general purposes we are not prepared to allow; but if the advocates of bottom heat to Vine borders were to adopt it instead of iron pipes for their purpose, we

Fig. 1.

should not hear of so many failures in this practice of culture as we do. It is humid heat that Vine roots require, not a roasting. Let those, then, who wish to apply bottom heat to their Vines use the tank closed, with a perforated covering, and this with permeable material between the tank and the soil, and we shall be astonished if their efforts be not attended with success.

The same Mr. Rendle who rendered this service to horticulture in his earlier days, has now invented a mode of protecting

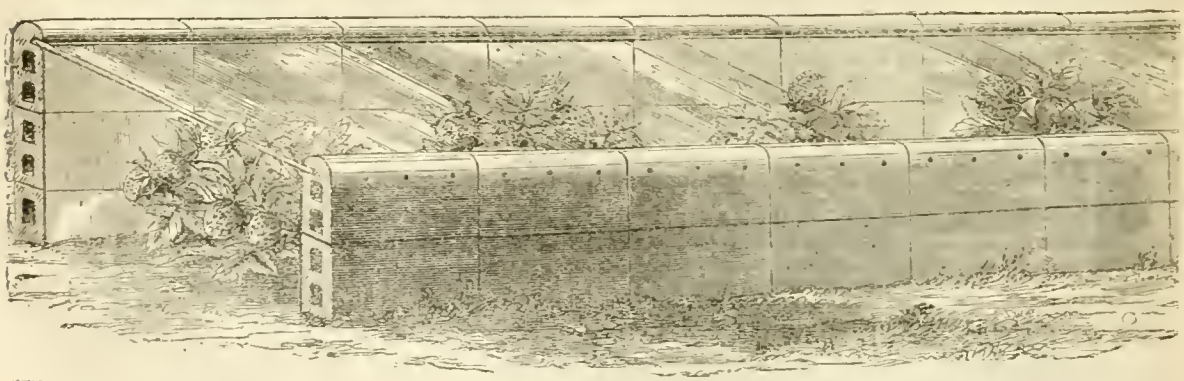


Fig. 2.

tender crops, which ought to obtain all the publicity and popularity which its merit demands. The contrivance consists in glazing, with Mr. Rendle's patent protecting bricks, low structures which may be called "frames" without the aid of putty, by merely slipping the sheets of glass into a grooved brick. We cannot better explain the principle than by referring our readers to the accompanying woodcuts. The length to which these little structures may be carried is limited only by the extent

of ground at command, and their width by the strength and length of the glass employed to glaze them. The uses of these structures are similar to those of the ground vineries, and although applied to the culture of the Vine, they are equally applicable to that of other crops, such as early Peas, and Salads; the propagation, by cuttings and grafting, of valuable plants in pots; and also for the protection of the less hardy plants during winter.

In *fig.* 1 we have the representation of a ground vinery. The drawing, which was supplied by Mr. Rendle, is not quite to our mind, as it represents the walls of the structure solid, whereas we would suggest that they be pigeon-holed so as to admit of that free circulation of air necessary in so small a space to ensure health and vigour to the plant enclosed. We have seen at Mr. Rivers's an experiment with these tiles erected after this fashion, and it succeeds admirably. The Vine is the picture of health and vigour, and under the glass there is the needful amount of humidity to secure health and keep down red spider. *Fig.* 2 shows its application to the protection and hastening of Strawberry crops. Here, too, we ought to have pigeon-holes. *Fig.* 3 represents a seed-protector—a protector from birds and from changes of temperature; and in *fig.* 4 we have the tiles used as a winter protection, by having them covered with any loose litter.

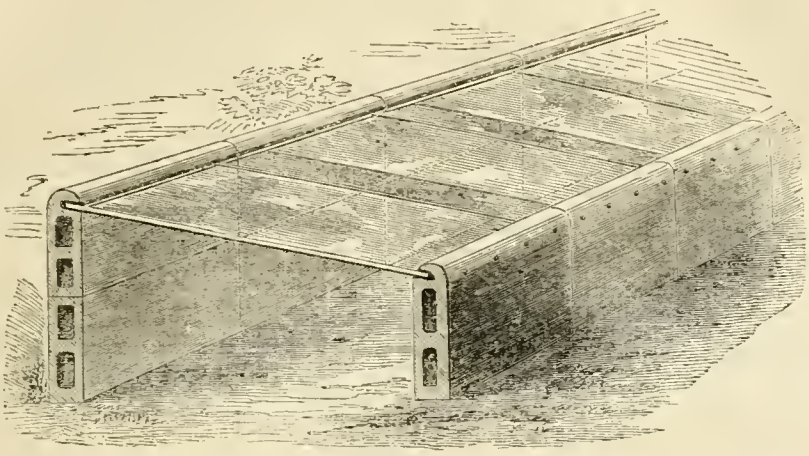


Fig. 3.

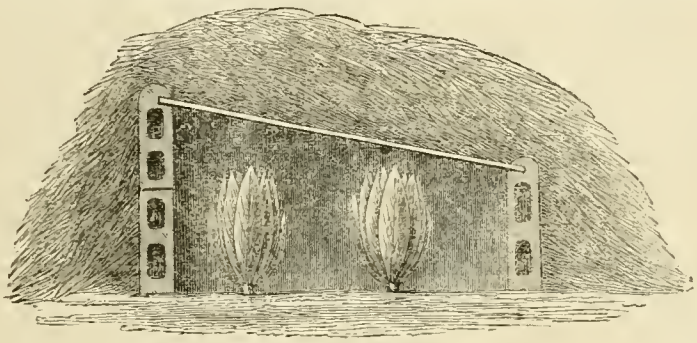


Fig. 4.

We would strongly urge Mr. Rendle to adopt the pigeon-holed principle. It is better for the general hardy use of the "protectors;" but it admits also of their being employed for forcing. When so employed heat may be applied by a lining of heating material placed all round them. As yet this is but the initiation of an idea which is capable of great development, and we see in it a fund of interest and usefulness in store for horticulturists. The great recommendations of this plan of Mr. Rendle's are cheapness, durability, disuse of putty and paint, and the total dispensation with the services of what are called "skilled workmen" in their erection. The material of which they are made is also an important element in the question, for the heat absorbed by bricks during the day will be given off at night, and in this respect bricks have the advantage over such structures made of wood and glass only.

LORD RAGLAN ROSE IN CANTERBURY, NEW ZEALAND—THE MAORIES.

I CANNOT refrain from sending word to such Rose-growers as the Rev. Mr. Radclyffe, Messrs. Paul, Messrs. Lane & Son, and to many other Rose-growers in the United Kingdom, a brief account of this Rose at the Antipodes. Its merits as regards flowering—Why, it is never out of flower here! Plant it where you like, and kick it about in any nook of your garden, flower it will at any time of the year. I feel quite delighted in sending you word that I gather a great number of hand-bouquets daily of this interesting Bourbon Rose, and everything bids fair for me to have a good supply during all the winter months out of doors. I often think of Mr. Radclyffe's good advice about Roses. It is this—"You had better grow fifty plants of a well-known good Rose than so many bad ones." To this effect he advises your ("our") troublesome correspondents to grow nothing but good Roses. He is right.

Général Jacqueminot is our next favourite here. I want a little more experience about the General here before I can write about him confidently. Try to convince the Rev. Mr. Radclyffe, through me, that his experience related in "our" Journal, meets with due honours here. Having read his list of the best Roses to grow, over and over again, it caused me to procure £10 worth of Roses from a firm in Melbourne, chiefly varieties recommended by him, and which have mostly been imported from the mother country. I will write you word about them from time to time. I shall always feel grateful for his advice in "our" Journal about Roses.

If I digress a little on this occasion, I hope you will pardon me, even for entering into colonial politics. I do not want the Rev. Mr. Radclyffe to think the Maories here do not understand the scent of a good Tea Rose. Quite the contrary. They do. The missionaries deceived them some few years ago, and now the poor fellows see Europeans occupying and settled on their original homesteads, obtained from them, as I shall presently state; it causes them to feel almost heart-broken in the northern island, and this explains why vengeance is sweet to them. All the outbreaks which are annually happening between us Europeans and them, simply arise from this fact. The missionaries gave them, in their ignorance of civilised laws, trinkets and toys for their homesteads and freeholds, if I may be allowed the use of the term. Hence all the bad news you hear from time to time in your English newspapers. The Maories, I can assure you, are a very fine race of intellectual men, no fools, since they have acquired European manners and customs. One thing I can vouch for, at any rate, they know a good Rose.

When the Duke of Edinburgh visited us this month (May), if you had seen their display of loyalty to Queen Victoria—excuse me, "WILTSHIRE RECTOR," for using your adopted name so freely in "our" Journal on this occasion, but something prompts my mind that yourself and our Rose-growing champion possess an abundant store of Christian fellow-feeling towards other races of men besides ourselves, and if your pulpits were here instead of at home, I feel you would say, Don't shoot these poor fellows yet, you Europeans; you know there is salvation in store for them as well as yourselves.

I will give you the purport of a very simple argument which

was tossed about in the crowd, when the Maories showed their faces to welcome the Prince. There were some fifty or sixty all mounted on horseback to the astonishment of us Europeans. Their good behaviour needs no comment. We settlers naturally asked ourselves, and argued the point together, Why should we Europeans here take advantage of a native race more ignorant, in some respects, than ourselves, and take from them all they possess? Common sense says it is wrong.

What I have written openly and candidly, are strong impressions on my mind about the indigenous race of human beings here.

Now I must have my say on this subject, as an old settler here. Our present provincial government have offered £1000 as a premium for the best system of preserving a certain quantity of meat in tins; £1000 ditto for the best manufacture of a quantity of woollen goods out of our own grown wool; £1000 ditto for the best sugar, a certain number of tons, manufactured from our own-grown Beetroot in Canterbury. This, I hope, will be a great inducement to capitalists to come out here. This is what we want, some money; population will follow. I will conclude by saying, that we pay now for a leg of mutton, 1*s.*; a whole sheep, 4*s.* 9*d.*; a whole lamb, 4*s.*; beef, 2*d.* to 7*d.* per lb. I am dining to-day (May 22nd), family included, on a prime cut from the sirloin, at 6*d.* per lb. We are perfectly glutted with butcher's meat here for want of population and capitalists.—William Swale.

RETARDING FRUIT TREES IN AN ORCHARD HOUSE.

My garden, consisting of about half an acre of garden ground, is surrounded by houses, and, therefore, in spring is very warm. In consequence of this warmth, early in spring my pot trees in a lean-to orchard house blossom much too soon, and invariably Peach and Nectarine trees bear no fruit. I have read attentively Mr. Kingsley's mode of piling the pots in the open air, and thus retarding the trees bursting into blossom. Do you think I might try it with any chance of success? Would the trees in pots now in the orchard house bear the same treatment?—H. F. Fry.

[You may safely retard your fruit trees in pots by keeping them out of doors, and protecting the pots and heads from severe frost. However warm your position is, you might retard the trees in the orchard house by giving plenty of air night and day, and dulling the glass with a little whitened water. With a free circulation, trees in an orchard house may be kept late in blossoming.]

TAUNTON DEANE FLORICULTURAL AND HORTICULTURAL SOCIETY.

This Society, which was established in 1866, held its fourth annual Exhibition on the 12th inst., and I have no hesitation in saying it was one of the very best exhibitions which ever took place out of London.

Some idea may be formed of the magnitude of the Exhibition, when I state that five large tents were filled with a varied and most excellent collection of flowers, fruits, and vegetables; a sixth tent was also partly filled with choice collections of hardy Ferns. The following are the dimensions of the tents:—No. 1, 46 by 36 yards; No. 2, 35 by 36; No. 3, 41 by 36; No. 4, 28 by 36; No. 5, 23 by 36; No. 6, 23 by 36. To have filled the above large space with such a magnificent collection as that I had the pleasure of seeing on Thursday is a great and lasting credit to the gardeners, amateurs, and cottagers residing in the neighbourhood of Taunton; it also augurs well the future of horticulture in Somerset, and shows that the spare hours of the gardener, the amateur, and the cottager are turned to good account, both in developing the beauties which deck our land, and in improving by superior cultivation what is sent for our sustenance. The man who could by constant care and watching produce such splendid results as those I allude to, be he cottager, amateur, or gardener, shows that he is possessed of something more than the ordinary amount of intelligence—he does not labour for gain; his is simply and purely a labour of love, which the owners of the soil not only in Somerset, but in every other county, would do well to encourage by every means in their power. This would greatly tend to lessen crime, and cause the benches of the alehouse to remain unoccupied, more than all the acts that could be passed in the best parliament that ever existed, or that ever will exist. The streets of Taunton on Thursday also presented such a scene as I have never before witnessed; business of all kinds seemed to be forgotten, and the whole town seemed to have but one thought—that of participating in the pleasure of witnessing and adding to the beauty and usefulness of the Exhibition. Every street, and I may almost say every house bore some testimony to the interest felt by the inhabitants in the proceedings of the day.

Now that we have entered the Show ground we must stroll quickly through the various tents, only stopping to notice the greatest rarities, or those commanding an extra share of notice, and even this will be a difficult matter, seeing that there were so few exhibitions which did not deserve the highest meed of praise that could be awarded. If, therefore, there are any that I have not noticed, it is not from want of inclination, but of time and space, for to mention all would take a considerable amount of both.

The whole of the tents were arranged alike, all having a centre stage or table, with a flanking table on each side, leaving ample space between the centre table or stage and the flanking tables for the public to pass comfortably through without damaging the exhibition subjects on either side. This is a hint that might be acted upon with advantage by some of the managers of our metropolitan exhibitions.

Tent No. 1 was set apart for the classes in which the principal prize collections were exhibited. These consisted of stove and greenhouse plants, ornamental-foliaged plants, and Ferns, which were shown in great abundance and in excellent condition. The first prize in the class for twelve stove and greenhouse plants was taken by J. B. Saunders, Esq., The Laurels, Taunton. This, like the collection that was awarded the second prize, consisted of a fine lot of plants. The preference was given to Mr. Saunders's collection in consequence of there being a greater number of flowering plants in it. In the first-prize collection were fine plants of Ixora coccinea superba, Phænocoma prolifera Barnesii finely bloomed, Allamanda nobilis, and Dipladenia crassinoda. The second-prize group contained a splendidly-bloomed plant of the pretty Lagerstræmia indica, so seldom met with in collections of the present day—a plant which should, however, have a place in every collection; a fine Allamanda Hendersoni; and the finest plant I have ever seen exhibited of Cassia corymbosa—another grand old plant not grown half so much as it ought to be. This I believe may be made one of our best early summer decorative plants by proper management. There was also shown in this collection the finest Maranta Veitchii ever exhibited; also a splendid Maranta roseo-picta. Both of these plants were shown in excellent condition. The collections to which the other prizes in this class were awarded, also contained many plants which, for high cultivation and general excellence, could scarcely be surpassed.

The class for twelve exotic Ferns was well contested, splendid plants being exhibited in each collection; here the beautiful and graceful Adiantum farleyense and A. scutum—Ferns put in commerce by Mr. Robert Veitch, of the Exeter Nurseries. Mr. R. Veitch also exhibited splendid specimens of these in a large collection of new and rare plants, which occupied a considerable portion of the centre stage. There was also a very choice collection of Ferns exhibited by J. Wilmot, Esq., of St. Thomas's, Exeter. In this collection was a noble Adiantum farleyense. In front of the plants I have just reviewed were placed on the ground pans of Lycopods in splendid condition. Mr. Williams, of Holloway, also occupied a large space on the centre stage with a collection of plants, among which I noticed an exceedingly fine Lapageria rosea, perhaps one of the finest plants that have ever been exhibited. Mr. Williams likewise exhibited a choice collection of new and rare plants. Fine groups of Fuchsias were also exhibited in this tent, and on the side tables Gladiolus, by Mr. Kelway, of Langport. Mr. Cypher, of Cheltenham, exhibited some very finely-grown stove, greenhouse, and ornamental-foliaged plants; so did Messrs. Dix and Nelson, the prizes being awarded in the order in which these names appear. There was, besides, a grand display of cut Verbenas shown on the side tables in this tent, as well as of cut Roses, Phloxes, Dahlias, and Zonal Pelargoniums. Cockscombs were well represented.

Tent No. 2 contained splendid collections of plants, chiefly contributed by amateurs and gentlemen's gardeners. In this tent I noticed some of the finest double Pelargoniums I ever remember having seen exhibited. I can only name a few of the gems amongst the many in this tent, such as Vinca oculata, splendidly bloomed; a nice pot of the pretty Coprosma Baueriana variegata, one of the coming bedding plants of the age; and the graceful Cupania Jacaranda, with its beautiful Fern-like leaves, undoubtedly one of the most beautiful plants we have for table decoration, and a worthy companion to the graceful Grevillea robusta. Standing on the ground in this tent I saw a large specimen of the curious Amorphophallus nobilis, with its handsomely mottled stems; this is, perhaps, one of the most remarkable plants we have for rapid growth, a few days only being required for it to mature its gigantic stem and foliage. There were also nice specimens of Terminalia elegans and Cossignea borbonica, two excellent plants for table decoration.

Tent No. 3 was much longer than the preceding two, and contained a fine collection of fruit and vegetables, arranged on a table extending the whole length of the tent. Dividing the fruit from the vegetables

was a row of Variegated and Bronze Zonal Pelargoniums. Amongst the fruit the magnificent Pines which were exhibited by Mr. Davies, gardener to Lord Bridport, were greatly admired and justly received the highest award. The grand display of vegetables which was arranged in this tent could only be appreciated by those who had the privilege of seeing it. I am well aware that the soil in the neighbourhood, and within a circuit of many miles round Taunton, is highly suitable for the growth of vegetables, but the soil alone could not have produced them of such quality; much praise is therefore due to the whole of the exhibitors in the several classes for the excellence of their productions, the worst of which were superior to many I have seen gain a first prize. At the top of this table Mr. Davies exhibited four splendid fruit of the Smooth-leaved Cayenne Pine Apple, not for competition. Other good Pine Apples were also exhibited, but not in classes for competition. There were numerous exhibitions of Cherries, Gooseberries, and Red and White Currants, but the display of the better class of fruits, such as Nectarines and Peaches, was small. For the latter, Mr. Davies took the first prize with a nice dish of Noblesse. There was a pretty good display of Melons, but not of very great merit.

Tent No. 4, like the previous one, was very spacious, and constituted the grand centre of attraction for the ladies, for it was there they were pitted against each other in friendly rivalry. There were displayed on the centre table the handiwork their fair fingers had wrought in the shape of numerous designs and devices for the decoration of the dinner-table, some of which were of a very elaborate character, others neat, simple, and, as I thought, in consequence much more appropriate for the purpose, too great a quantity of strongly-smelling flowers being in my opinion no way desirable. There was likewise a good display of bouquets and hanging-baskets of various sizes; also some handsome Fern vases neatly filled with Ferns and Mosses, and in the centre of the tent were displayed the prizes to be given to the successful competitors. In the various parts of the Exhibition, on the side tables, large quantities of cut Roses, Asters, and various other florists' flowers were exhibited, besides a large collection of Gourds, Vegetable Marrows, &c.

Near the entrance to this tent a very interesting collection of British wild flowers was exhibited in a style unsurpassed by anything of the kind I have ever seen. The system of their arrangement was unique. There were 144 specimens botanically described. The manner in which this collection was staged reflects the highest credit on those who had the task of bringing them together and exhibiting them. The collection contained many gems of great beauty and interest.

Tent No. 5 was termed the cottagers' tent. In this a very excellent assortment of vegetables and flowers was displayed; the vegetables being equal in quality and quantity to those exhibited by the professional gardeners and by the amateurs. Their nosegays were also pretty, and in many instances very judiciously arranged. One of the most successful exhibitors in this tent was a man named Daw, who is a railway guard on the Taunton and Chard Railway. He took, I think, about fourteen prizes, ten of which were first prizes; his productions were of great excellence, and much credit is due to him, as I understand the ground where he grew these fine specimens of vegetables was, three years ago, of the poorest character, and to all appearance quite unfit for the cultivation of vegetables or anything else; but by the constant application of the spade, and sweeping the roads for manure, he has brought it to its present fertile state. I had an opportunity of seeing a handsome watch which had been presented to him for his general carefulness and kindness by the passengers travelling over the line. This is the sort of man we want to entrust our lives to, careful in small matters, and worthy the charge of great. At the entrance of this tent a very pretty model of a flower garden was exhibited. This was a very skilful and prettily arranged model, showing a good taste in design, and also in the arrangement of colours.

In tent No. 6 a very fine collection of hardy British Ferns was exhibited. This brings me to the end of my journey through the tents. Although several of them, as above stated, were crammed, there were several vanloads of plants sent away from the ground unpacked in consequence of there not being time for their arrangement before the Judges commenced their labours. I must speak in terms of the highest praise of the admirable manner in which the whole of the arrangements connected with the Exhibition were carried out by J. B. Saunders, Esq., and the Committee who so ably and agreeably acted with him for the good of the Society and the development of horticulture generally in the neighbourhood; also of the excellence of the plants exhibited by Mr. Saunders, Mr. Marshall, Mr. Taylor, Mr. Hellard, and other gentlemen in the neighbourhood, whose names for the moment I do not remember. It must be a source of great gratification to them, that by the means at their command, and the talent and energy of their gardeners, they have been able to present such a horticultural spectacle as has never before been witnessed in the west of England, and which if carried out next next year in connection with the Show of the Bath and West of England and Southern Counties Association, which is to be held at Taunton next July, must, with the assistance of exhibitors from other parts of the country, prove a still greater success.

Among the decorations of the town I must notice the magnificent arch erected by Mr. Dyer over the North Street, in front of his establishment. It was certainly one of the handsomest I have ever seen, reflecting the highest credit on the skill of Mr. G. Stevens, who was the designer, and on Mr. Dyer who so ably carried out the work. To this the first prize was awarded.

I append the list of awards to this report, which has fallen very far short of conveying an adequate idea of the excellence of the Exhibition, which I am glad to hear has considerably augmented the funds of the Society, enabling them to offer more numerous and better prizes another year.

In consequence of the number of exhibitions, many stands were passed over unnoticed by the Judges. In future, exhibitors should be careful to see their specimens properly placed before leaving the tent. A fine Orchid from the garden of J. Marshall, Esq., was passed over in this way.—J. Wills, F.R.H.S.

Plants and Flowers (Open).—Twelve Stove and Greenhouse Plants.—1, Mr. J. Cypher. 2, Mr. J. W. S. Dix. 3, Mr. J. Nelson. Six.—1, Mr. W. C. Drummond. 2, Mr. J. Cypher. Eight Fine-foliaged and Variegated Plants,—1, Mr. J. Nelson. 2, Mr. J. Willmetts. 3, Mr. W. C. Drummond. Six Orchids.—2, Mr. W. C. Drummond. Twelve Exotic Ferns.—1, Mr. J. Nelson. 2, Mr. J. Willmetts. 3, Mr. J. A. Dyer. Twelve Hardy Ferns.—2, Mr. J. A. Dyer. Four Selaginellas.—1, Mr. J. Nelson. 2, Mr. F. W. Newton. 3, Mr. J. Willmetts. Eight Zonal Pelargoniums.—1, Messrs. Kelway & Son. 2, Mr. J. A. Dyer. Eight Nosegay Pelargoniums.—1, Messrs. Kelway & Son. 2, Mr. J. A. Dyer. Eight Variegated-leaved Pelargoniums.—1, Mr. W. Rowden. 2, Col. Graham. 3, Mr. Drew. Pelargoniums, other varieties.—1, Mr. W. Rowden. 2, Mr. W. Drew. Phloxes, twelve spikes.—1, Mr. J. Marshall. 2, Mr. H. Hooper. Six Fuchsias.—1, Mr. W. C. Drummond. 2, Rev. H. T. Tucker. 3, Mr. J. A. Dyer. Six Achimenes. Six Cockscombs.—1, Mr. J. Parsons. 2, Mr. J. A. Dyer. Newly introduced Plant, with Ornamental Foliage.—1, Mr. S. Dobree. 2, Mr. J. Marshall. Newly introduced Plant, in bloom.—1, Mr. J. Cypher. 2, Mr. J. Marshall. Forty-eight Roses, single blooms.—1, Mr. J. Keynes. 2, Messrs. H. Curtis & Co. Equal 3, Mr. J. Durbin; Mr. J. A. Dyer. Twenty-four Roses, three blooms of each.—1, Mr. J. Keynes. 2, Messrs. H. Curtis and Co. 3, Mr. J. Durbin. Dahlias, twenty-four blooms.—1, Mr. J. Keynes. 2, Mr. T. Hobbs. 3, Messrs. Kelway & Son. Twelve blooms.—1, Mr. J. Keynes. 2, Messrs. Kelway & Son. Fancy, twelve blooms.—1, Mr. J. Keynes. Hollyhocks, twenty-four blooms.—1, Messrs. Kelway & Son. 2, Mr. H. Hooper. Twelve blooms, not less than six distinct varieties.—1, Messrs. Kelway & Son. 2, Mr. J. A. Dyer. German Asters, twenty-four blooms, not less than eight distinct varieties.—1, Messrs. Kelway & Son. 2, Mr. H. Hooper. French Asters, twenty-four blooms.—1, Messrs. Kelway & Son. 2, Col. Graham. 3, Mr. J. A. Dyer. Gladioli, twenty-four spikes, not less than twelve distinct varieties.—1, Messrs. Kelway & Son. 2, Mr. J. Marshall. 3, Mr. J. Durbin. Verbenas, twenty-four varieties.—1, Mr. S. Dobree. 2, Mr. W. Bates. 3, Mr. W. Miller. Eighteen varieties.—1, Mr. S. Dobree. 2, Mr. W. Bates. 3, Messrs. Kelway & Son. Fern Case, arranged for drawing-room.—1, Messrs. Kelway and Son. 2, Mr. J. A. Dyer. Cut Flowers.—1, Mr. J. A. Dyer. 2, Messrs. Kelway & Son. Equal 3, Mr. J. Cypher, and Mr. W. C. Drummond.

Amateurs.—Twelve Stove and Greenhouse Plants.—1, Mr. J. B. Saunders. 2, Mr. J. Marshall. 3, Mr. J. W. Dix. Six.—1, Mr. J. B. Saunders. 2, Mr. F. W. Newton. Twelve Fine-foliaged Plants.—1, Mr. J. B. Saunders. 2, Mr. S. Dobree. 3, Mr. J. Marshall. Six.—1, Mr. J. B. Saunders. 2, Mr. J. Marshall. 3, Mr. F. W. Newton. Twelve Exotic Ferns.—1, Mr. J. B. Saunders. 2, Mr. J. Marshall. 3, Mr. P. Taylor. Equal 3, Mr. F. W. Newton. Twelve Hardy Ferns.—1, Col. Graham. 2, Mr. J. Marshall. 3, Mr. P. Taylor. Four Selaginellas.—1, Mr. F. W. Newton. 2, Rev. H. T. Tucker. Six Begonias.—1, Mr. E. Whithy. 2, Mr. F. W. Newton. Four Japan Lilies, in pots.—2, Mr. J. Marshall. Six Fuchsias, in pots.—1, Rev. H. T. Tucker. 2, Mr. P. Taylor. 3, Mr. J. B. Saunders. Gladioli, six spikes.—1, J. Marshall, Esq. Six Zonal Pelargoniums.—1, Mr. J. B. Saunders. 2, Miss Young. 3, Mr. J. Parsons. Six Nosegay.—1, Mr. J. B. Saunders. 3, Mr. W. B. Hellard. Four Bronze Zonals.—1, Mr. W. Rowden. 2, Mr. J. B. Saunders. 3, Miss Hall. Four Golden Tricolor.—1, Mr. J. B. Saunders. 2, Mr. W. Rowden. 3, Mr. W. Miller. Four Silver Tricolor.—1, Mr. J. B. Saunders. 2, Mr. W. Rowden. 3, Mr W. B. Hellard. Four Double Zonal.—1, Mr. J. B. Saunders. 2, Mr. J. Parsons. 3, Mr. W. Miller. Three Achimenes.—1, Mr. J. Marshall. 2, Mr. J. B. Saunders. Petunias, double and three single.—3, Rev. H. T. Tucker. Six Balsams.—1, Rev. W. C. Kinglake. 2, Mr. T. Ponsford. 3, Mr. J. B. Saunders. Six Cockscombs.—1, Miss Hell. 2, Mr. T. Ponsford. Collection of Annuals.—2, Rev. W. C. Kinglake. 3, Mr. J. Parsons. German Asters, twelve blooms.—2, Mr. J. Parsons. 3, Mr. W. Smith, jun. French Asters.—1, Mr. W. Smith, jun. 2, Mr. S. Gorton. 3, Mr. J. Carver. Six Gloxinias.—3, Col. Graham. Eighteen Cut Verbenas.—1, Mr. S. Dobree. 2, Mr. F. W. Newton. Twelve.—1, Mr. S. Dobree. 2, Mr. W. Miller. Dahlias, twelve blooms. Roses, twenty-four varieties, single blooms.—1, Mr. S. Dobree. 2, Mr. R. N. G. Baker. 3, Mr. W. Smith, jun. Twelve.—1, Mr. S. Dobree. 2, Mr. J. Gould. 3, Mr. R. N. G. Baker. Six Tea, two blooms each.—2, Mr. J. Gould. Ornamental Hanging Basket.—1, Mr. T. Jeans. 2, Mr. F. W. Newton. 3, Mr. C. E. Rowcliffe.

Single Specimen Plants of Superior Cultivation.—Stove Plants.—2, Mr. P. Taylor. 3, Rev. H. T. Tucker. Greenhouse Plants.—1, Mr. E. Wotton. 2, Mr. P. Taylor. Lycopodium.—1, Mr. F. W. Newton. 2, Rev. H. T. Tucker. 3, Mr. P. Taylor. Fern.—1, Mr. J. Marshall. 2, Mr. J. B. Saunders. 3, Mr. C. A. W. Troyte. Fuchsias, light variety.—1, Mr. E. A. Sanford. 2, Mr. P. Taylor. Zonal Pelargonium, or plain foliage.—1, Mr. J. B. Saunders. 2, Mr. E. A. Sanford. 3, Mr. W. B. Hellard. Golden Tricolor Pelargonium.—1, Mr. J. B. Saunders. 2, Mr. Rowden. Silver Tricolor.—1, Mr. J. B. Saunders. 2, Mr. W. Miller. 3, Mr. W. B. Strange. Bronze Zonal.—1, Mr. J. B. Saunders.

Ladies' Prizes.—Ornamental device for table (in cut flowers).—1, Mrs. P. Taylor. 2, Mrs. Gorton. 3, Mrs. J. W. Shepherd. Ornamental device, or group for table, in fruit and flowers.—1, Mrs. J. W. Shepherd. 2, Mrs. Smith. Hand bouquet suitable for a concert or ball.—1, Mrs. Dyer. 2, Mrs. P. Taylor. 3, Miss Cypher.

Fruits (Open).—Collection of fruits of twelve varieties (not to contain more than one Pine, one Melon, or two dishes of Grapes).—1, a Silver Cup, Col. Graham. 2, Mr. C. E. Rowcliffe. A collection of six, but not to contain a Pine, or more than one dish of Grapes and one Melon.—1, Mrs. Dakin. 2, Mr. B. Nash. Pines (two, not to be cut).—1, Lord Bridport. 2, Mr. W. P. Gore-Langton, M.P. Grapes, White (three bunches).—1 and 2, Mr. J. Carver. Black (three bunches).—1, Mrs. Dakin. 2, Mr. J. Carver. Melon (any kind, best flavour).—1, Mrs. Adair. 2, Mr. J. W. Shepherd. Peaches (dish of eight).—1, Miss Cypher. 2, Mr. T. Jeanes. Nectarines (dish of eight).—1, Mr. E. A. Sanford. 2, Lord Bridport. Apricots (dish of eight).—1, Mr. F. W. Newton. 2, Mr. B. Nash. Plums (any variety, dish of twelve).—1, Mrs. Adair. 2, Miss Hall. Apples, Dessert (dish of nine).—1, Mr. H. Hardstaff. 2, Mr. W. Bates. Apples, Culinary (dish of nine).—1, Mr. J. Carver. 2, Mrs. Adair. Pears (dish of nine).—1, Mr. R. G. Badcock. 2, Mrs. Dakin. Currants, Red (best dish).—1, Mr. T. Cocker. 2, Mr. W. H. Helyar. Currants, White.—1, Mr. W. H. Helyar. 2, Rev. W. C. Kinglake. Cherries.—1, Mr. E. A. Sanford. 2, Mr. W. H. Helyar. Gooseberries.—1, Mr. W. B. Hellard. 2, Mr. J. Carver. Four orchard-house trees, grown in pots, bearing fruit.—1 and 2, Mr. J. B. Saunders.

Vegetables (Open).—Collection of vegetables (ten dishes).—1, Mr. J. Carver. 2, Mr. C. E. Rowcliffe. Collection of vegetables (six dishes).—1, Mr. R. G. Badcock. 2, Mr. W. Daw. Potatoes, Round (half-peck).—1, Mr. J. Carver. 2, Mr. W. Miller. Potatoes, Kidney (half-peck).—1, Mr. J. Carver. 2, Mr. W. Miller. Parsnips (six).—1, Mr. W. Daw. 2, Mr. R. G. Badcock. Cauliflowers.—1, Col. Graham. 2, Mr. R. G. Badcock. Celery.—1, Mr. W. Miller. 2, Miss Hall. Carrots.—1, Mr. W. Daw. 2, Mr. R. Fergneson. Turnips.—1, Mrs. Adair. 2, Mr. W. B. Hellard. Onions (spring grown).—1, Mr. W. Miller. 2, Col. Graham. Scarlet Runners.—1, Miss Hall. 2, Mr. E. A. Sanford. Shallots.—

1, Mr. W. Bowden. 2, Mr. J. Carver. Cucumbers.—1, Mr. C. F. Rowcliffe. 2, Mr. J. Parsons. Tomatoes.—1, Mr. C. F. Rowcliffe. 2, Mr. J. Parsons. Basket of Salad.—1, Capt. Hartwell. 2, Mr. A. Godfrey. Lettuce.—1, Capt. Hartwell. 2, Mr. J. Carver. Gourds, Vegetable Marrows, &c., collection.—1, Mr. B. Nash. 2, Miss Young.

COTTAGERS' PRIZES.—Collection of vegetables (six kinds).—1, Mr. W. Daw. 2, Mr. J. Clapp. 3, Mr. J. Withyman. *&c*, Mr. E. Hannaford. Potatoes, (Kidney).—1, Mr. R. D. Pavord. 2, Mr. E. Hannaford. 3, Mr. J. Clapp. Potatoes (Round).—1, Mr. R. D. Pavord. 2, Mr. J. Withyman. 3, Mr. J. Clapp. Parsnips.—1, Mr. W. Daw. 2, Mr. W. Lock. 3, Mr. J. Clapp. Celery.—1, Mr. A. Godfrey. 2, Mr. N. Garland. 3, Mr. W. Daw. Carrots.—1, Mr. W. Daw. 2, Mr. J. Clapp. 3, Mr. E. Hannaford Turnips.—1, Mr. W. Daw. 2, Mr. J. Clapp. 3, Mr. W. Burnell. Onions (bunch of twelve spring sown).—1, Mr. R. D. Pavord. 2, Mr. N. Garland. 3, Mr. A. Godfrey. Peas.—1, Mr. W. Daw. 2, Mr. B. Budd. 3, Mr. R. D. Pavord. Scarlet Runners.—1, Mr. E. Hannaford. 2, Mr. W. Daw. 3, Mr. J. Clapp. Cucumbers.—1, Mr. A. Godfrey. 2, Mr. G. Harris. 3, Mr. J. Clapp. Lettuce.—1, Mr. W. Daw. 2, Mr. A. Godfrey. 3, Mr. N. Garland. Cabbage (Red).—1, Mr. R. D. Pavord. 2, Mr. W. Daw. 3, Mr. N. Garland. Vegetable Marrows.—1, Mr. J. P. Blackmore. 2, Mr. W. Daw. 3, Mr. A. Godfrey. Fruit, basket (six kinds).—1, Mr. J. Clapp. 2, Mr. W. Burnell. 3, Mr. H. Stodgell. Collection of cut flowers.—1, Mr. J. Pole. 2, Mr. J. Withyman. 3, Mr. J. Clapp. Nosegay.—1, Mr. J. Pole. 2, Mr. J. P. Blackmore. 3, Mr. A. Godfrey. Device in cut flowers.—1, Mr. A. Godfrey. 2, Mr. J. Pole.

HONEY.—The largest quantity taken during the season from one swarm.—1, Mr. T. Shattock. Best box or glass, 1869.—1, Mr. T. Shattock.

JUDGES.—*Plants and Flowers*:—Mr. Turner, Slough; Mr. Dean, Ealing; and Mr. T. Parker, of Bristol. *Fruit*:—Mr. Cramb, gardener to the Earl of Ducie, Tortworth Court; and Mr. Clarke, gardener to Mrs. Esdaile, Cothelstone House. *Vegetables*:—Mr. Megin; Mr. M'Culloch, gardener to Sir A. A. Hood, St. Audries; and Mr. Saul, gardener to Dr. Woodforde. *Cottagers' Fruit and Vegetables*:—Messrs. J. H. Horsey, Taunton; Mr. Davis, gardener to Lord Bridport; and R. Huxtable, gardener to Mr. F. W. Newton, Barton Grange.

WORK FOR THE WEEK.

KITCHEN GARDEN.

STIR the surface of the soil deeply amongst growing crops to admit air to the roots, and to keep down weeds. Take advantage of dry days to earth-up *Celery*, first thoroughly soaking the rows with manure water; also apply quicklime when slugs are troublesome. On heavy soils it is sometimes necessary to surround the plants with sand or sifted ashes to prevent their decaying in winter, which they are apt to do if surrounded with a very moist soil. Where this treatment is necessary it will be advisable to defer earthing-up till late in the season, as frequent soilings of this kind will be very troublesome. Also, pull up early *Onions* where ripe, and thoroughly dry them. *Potatoes* in wet soils should be taken up whenever the haulm is at all decayed, to prevent them from rotting. Thin young crops of *Spinach*, *Turnips*, &c., before they become weakly and drawn.

FRUIT GARDEN.

Any of the Peach and Nectarine trees which are observed to be growing too freely should be gone over, and all the stronger shoots stopped; and those that were treated in this way a few weeks ago should also be looked over again, stopping a further portion of the shoots if necessary, to prevent the formation of gross strong wood. Pear, and indeed all trained fruit trees, should also be examined, removing all superfluous wood, so as to expose the trees to sun and air as fully as possible. This will promote the ripening of the fruit spurs and bearing wood before winter. Recently-planted Strawberries will be benefited by occasional applications of manure water. Let ground be manured and dug, or trenched, for another crop, whenever time can be spared for this kind of work. Crevices between the soil and walls are the favourite resorts of numerous insects; therefore at this season, the soil adjoining walls should be frequently disturbed. A shallow trench may be taken out all along, and as this is being proceeded with, the soil adhering to the bricks should be removed with a hand broom. The portion of wall thus exposed should be sprinkled with gas water, or lime water if the former cannot be readily obtained. Lime water should be applied the instant it is made.

FLOWER GARDEN.

In addition to cuttings, keep a reserve stock of strong plants in pots, which is a safe practice where a large quantity of bedding material is required, and where there is proper convenience for growing and propagating in spring. These will furnish a large quantity of cuttings next March, which will form equally good plants by turning-out time as cuttings put in now. In the case of such plants as Ageratums, Heliotropes, and dwarf Lobelias, it is useless wintering young stock, for they grow so freely in heat, and are so easily propagated from soft cuttings, that a few good-sized old plants which require but little room or attention in winter, will furnish a very large quantity by turning-out time. See, however, where there are not plants to furnish spring cuttings, that plenty of cuttings are now put in, so as to provide, while it can be done, against running short of stock at planting-out time. Roses may be propagated by cuttings; choose the ends of shoots with the bottom part in a tolerably firm state. Let ground intended to be planted with young stock from the nursery be turned-up as soon as possible, especially in the case of strong adhesive soils, which are quite unfit for planting until they have been exposed to mellowing influences for some considerable time. Look over rock plants, pruning-back any that are overgrowing choice kinds, in order to give them sufficient time to break again. Cuttings of choice kinds should now be put in for planting out in spring. Peg down a few shoots of Chrysanthemums for layering in pots; this is better effected after the shoot has turned up at the point. Cut out some of the leaves from Hollyhocks to show their bloom. Polyanthuses may be parted, but use the knife as little as possible in the operation. Prick out seedling Auriculas into store pots or pans, so that they may become well-established before winter. Seedling bulbs of Tulips which have been out of the ground since the tops decayed, should be reset; for if kept out long the smallest are apt to perish. Many of the Carnations and Picotees that were layered early will now be fit to take off; it is better to detach them from the parent plant as soon as rooted. Continue to look to your seed-pods, sheltering them from excessive wet, and extracting decayed petals. Layering may be continued, though it will depend on the attention bestowed afterwards whether they will root well. Prick-out seedling Pansies, and plant-out the first-struck cuttings for next year's bloom. Pull off all damaged or deformed flowers, and take especial care by constant attention to staking and tying that the plants are not broken during boisterous weather.

GREENHOUSE AND CONSERVATORY.

Preparations must soon be made for bringing tender plants out of doors under cover. Where there is proper accommodation for these under glass, there can be no use in keeping them out of doors late this autumn; but in cases where they have to be wintered in vineries, it is often necessary to make every possible shift to keep them out of doors until the state of the Vines, &c., allows the houses to be managed with something like regard to the well-being of the plants. With the aid of tiffany houses or skeleton frames or pits, constructed so that they will ward off a few degrees of frost, and a waterproof cloth, old sashes, or anything for covering that will throw off heavy rains, most greenhouse plants may be kept safely enough out of doors for some time yet, unless the weather should prove more unfavourable than it is. They will be found also to do much better under such shelter than crowded together too thickly in houses where fire heat must be used. Indeed, when plants have to be wintered in forcing houses and other places which are not always in a fit state for their reception at the proper time, some temporary shelter is indispensable to shelter the plants from the drenching rains and cold winds of autumn, and a very suitable one would cost but little and would be found useful at most seasons. Luculias and other winter-flowering plants growing in the borders of the conservatory must be freely exposed to light and air, in order to ripen the growth well, and insure a fine display of bloom. Also see that all plants are clear of thrips, for this pest is particularly active now wherever it is allowed to obtain a hold, especially on Luculias and plants in a growing state.

STOVE.

Where there is but one stove for the accommodation of tropical plants, considerable care and attention are necessary to manage these properly at this season, as some, having completed their season's growth, require to be kept cool and rather dry in order to ripen the wood; while others in free growth require to be encouraged with warmth and moisture. If there is no convenience for removing to a cooler house plants which have made their growth, these should be placed together at one end of the house, keeping them sparingly supplied with water at the root, and giving air rather freely, which will generally serve to prevent any attempt at a second growth. Those requiring to be kept warm and moist should also be placed together at the opposite end of the house, where very little air should be given, using every care to keep the atmosphere about them moist. Allamandas and Clerodendrons which have finished blooming, may be removed to a vinery, where Grapes are ripe or ripening; for as they will require very little water, they will not do much mischief in the way of causing damp, and their room will be found very useful for other plants. See that everything is free from insects, and keep the foliage of

such plants as Ixoras, &c., clean, by washing with a sponge and soapy water when necessary.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

The frequent showers made us anxious to plant ground on which the crops were nearly over. We removed our third and fourth lots of Peas, and filled the ground with Broccoli and other vegetables for winter. Here we find the mixed system of planting and close-cropping rather advantageous. The Peas were grown in rows 6 feet apart, but there was a row of Broad Beans between every two rows of Peas, and the ground was carpeted besides with Radishes, Spinach, or Lettuces. We rather regretted moving off the Spinach, but we were forced to think of the future. The Beans are still strong and good, and those now 6 feet apart will give a little shade and protection to the Broccoli, &c. Each of the 6-feet spaces held three rows of vegetables; and as the ground had been heavily cropped, we gave each space a fair supply of the best material from the rubbish heap. Being short of room, we have a good breadth of Leeks outside the walls in a place broken up on purpose, as we have noticed in the course of years that hares and rabbits never interfered with our Leeks when we had to net, and secured them from everything else. In some cases where the Broccoli and Borecoles had become a little leggy, we used the crowbar in planting, as when firmly fixed, such plants do not dislike firm soil. In planting banks of Cauliflower in rows about 24 inches apart we have planted Cos *Lettuces* between, as they will be off before the Cauliflower fill the space. Planted out Lettuces of all kinds in every open space, and we have still two successions, which will carry us on to the beginning of winter, and through the winter if we put them under glass. Our last sowing to stand the winter will be made in a few days, and for this sowing we prefer that the ground should be rather poor, and just stirred at the surface —not forked, nor dug deeply. The seeds should be sown rather thickly, so that the plants shall protect each other when up, and merely patted down and covered with a little light soil. Favourite kinds of Lettuce seed must now be saved from the birds when ripening, otherwise they will soon clear it all off. Such seed is often easiest preserved in village gardens, as there the boys and girls keep the birds at bay.

A little *Endive* may still be sown in ridged borders or on the tops of ridges, and if the winter be at all favourable, the plants will prove useful in spring before the first spring Lettuces. Planted out lots of Fraser's Broad-leaved Batavian and the Curled Endive at the foot of walls to stand the winter, and on flat ground for earlier use. Where the seedlings are crowded, it is as well to take off the points of the longest leaves before planting, as they will be sure to flag, and thus retard free rooting. When sown thinly, so that the seedlings will have more room, this barbarous method of cutting off the leaves will not be necessary. We often err in thick seed beds merely to save room. The less the leaves are interfered with the sooner will a strong plant be formed, if these leaves can be kept fresh.

We lately planted a border of Cauliflower that had been previously pricked out, lifting the plants with balls, and at the same time planted a bank from a seed bed, the plants being to all appearance quite as good, and about the same age; but the pricked-out ones have scarcely shown a single flagged leaf, and will come in a fortnight or three weeks before the others that received no such care and preparation. Stout plants of Cauliflower turned out now in rich soil well pulverised, will make fine growth before the dark days, more especially if some protection can be given, or the most forward can be cut and treated as detailed lately. The Walcheren Cauliflower or Broccoli so treated will be hardier, and Snow's Broccoli should now be looked after, as it is so useful in the first part of winter. Our first sowing of Cauliflower is just breaking the soil, and we shall sow again in a few days.

We have made two sowings of Winter Spinach, and will follow with another in a few days. We cannot afford large breadths of this useful vegetable, and we find it safest to sow at several times, as if the first-sown plants become too strong they do not pass the winter so well as those not quite so succulent. We sowed the Spinach in rows 15 inches apart, and Radishes in the space between, the Radish seed being red-leaded to keep the birds from them. All the Radishes will be gone before the Spinach wants the space. We sowed Silver-skinned and other Onions for salading, as when used very young, many are required. Some people will have them not larger than needles, smaller by far than Chives, and in such a case there must be plenty of seed and plenty of sowings. We shall put in our first sowing of Tripoli in a few days, and will follow with another in eight or ten days, for like the Spinach, in a very mild winter the first sowing will not bulb so early and so well as in spring as the late sowings.

All early *Potatoes* where the haulm is becoming ripe and showing decay, will be better out of the ground than in it, and the space will then be at liberty. For small gardens hardly anything will exceed in productiveness the Prolific Ash-leaved Kidney, and it makes so little head that the rows may be pretty close. Our crops for some years have been wonderful. When to be kept for use, the tubers should be covered over with soil, and it is a good plan to size the tubers at storing time. We have tried numerous sorts of Potatoes, and fine kinds for produce and for flavour, but many of them instead of giving us haulm from 12 to 18 inches in length like the Prolific, give us shoots in our stony soil from 3 feet and upwards. Of course, such kinds require a great deal more room to give them justice. Provided fine-flavoured good-sized tubers can be obtained in plenty, the smaller the tops the better is the kind for small gardens. Besides there is less danger of disease if the sun can shine on each side of the row, than when the whole space seems a tangled mass of shoots and leaves; and the recumbent stems in moist weather are hardly ever dry. One reason why all ripe Potatoes should be lifted is, that if we have rainy weather the tubers will begin to grow again, and that greatly impairs their nourishing and agreeable qualities. Several circumstances have brought prominently before our notice this season, that to produce fine-flavoured Potatoes, good soil which has been well exposed to the air should be used, but no dung, unless well rotted and sweetened beforehand. Rank manure if it cause the production of good crops will cause rankness of flavour. Several samples that came under our notice showed but too well what they had been dunged with. The glory of a Potato is to be free from all peculiar flavour.

We took up the last of our large Onions which stood the winter, and set them with their roots upwards in a sunny place, with some old lights over them to keep them dry. The spring-sown ones are swelling well now. As we shall not have them off soon enough, we shall prick-out the most forward Cabbages, and lift these with balls afterwards. We shall sow a few Cabbages to stand the winter in the bed. Our second Cabbages are peeping through the soil. We sowed a piece of Turnips, and shall sow again in eight days, as they become useful in winter and spring.

FRUIT GARDEN.

Almost finished shortening shoots of trees, and will do the same with Currants and Gooseberries as soon as possible, so that we may find more room between them for sticking out winter stuff, as all becomes useful then, and can easily be removed in the spring if not wanted. All very strong shoots of Peaches and Nectarines should either be removed or shortened back, as very strong shoots will not be fruitful themselves, and will rob others of due strength. Protected Currants and Gooseberries by netting, &c. We have not done much with matting-up, &c., of late, and we think free bottling is almost as good, if not better for tarts; and unless Currants are well crystallised with sugar, but few people care for them at the dessert table.

We have not been able to clear our Strawberry beds of runners, &c., and are not particularly careful just now, as we have no dung short and rotten enough to place between the rows. We shall prick off a good many runners thickly, and they will be useful if wanted. See what was said of potting for forcing. A plant with a strong central bud, well ripened, will be more to be depended on than one with two or three smaller buds. Some kinds, however, often break into two or three buds, and when old plants are pressed into service these will generally have more than one bud. Plants intended for forcing must never be dry until their work is finished in the autumn, and even then the soil though not wet, should be moist rather than dry. When pots are kept under glass or other protection in winter, the flower-buds, in their incipient state, have often been ruined, by being dried up and shrivelled. From a contrary cause, after a little heat is given in the first stages of forcing, the buds are often flooded up, and rot and decay, in consequence of too much moisture. At that time before the truss appears, the soil should not be too wet, and the top of the soil should be sailed with the moisture without wetting the buds or crowns. Success often depends on such minor points of management.

Banked up frames in which Cucumbers and Melons are growing, as the heat was beginning to decline. In such dripping weather, a rough spout of some sort in front of a frame is of importance, as it prevents the wet soaking into and cooling the bed. We gave a little heat during the wet days to the vineries and Fig houses, &c., so as to keep the air in active motion, and prevent the temperature falling too low. Grapes well ripened in September will keep longer than those ripened later. Gave a good syringing to the first Peach house, and left the lights off for the rains. In orchard house, syringed little where the fruit is ripening. Top-dressed the pots, as it saves watering, using chiefly rotten dung, with a little soot. Where Pine Apples are grown, now is a good time for putting the earliest fruiters for next year into their fruiting pots.

Looking-glasses for Birds.—In relation to what was stated in a late number as to these deterrents for birds from seeds and fruit, a sample of two has been kindly sent us through the Editors from Mr. Peter Selby, 15½, Newhall Hill, Birmingham, and having suspended them over a piece of seeds, we have noticed the birds fly past them, and as yet no scratch appears in or on the ground. We mean to procure a few, and give them a farther trial, as the expense will be small. These small glasses are very neat, having black iron backs, and neat brass-gilt frames in front. The frames and glasses are oval; the greatest length of the frame is nearly 4 inches, and the greatest width about 3¼ inches. The long and short diameters of the looking-glass are about 2¼ by 1⅞ inches. Mr. Selby, who is an old subscriber, and thus noticed our inquiry, offers these mirrors at a very low rate. Where birds are plentiful and mischievous they well deserve a trial, and we trust they will render the sound of the gun unnecessary. Farther experience will be wanted as to their continued utility in this direction, as birds, animals, and children too, become used to such deterrents. Many years ago we used broken pieces of mirrors with good effect; but the little mirrors above referred to are much more neat and handy, and are easily hung on a string at once.

ORNAMENTAL DEPARTMENT.

Attended to the routine of mowing, sweeping, and rolling the lawns and walks. The rains having softened the lawn, we dug or spudded up a large number of the broad-leaved Plantains, which threatened to occupy some turf put over beds two years ago. The turf was taken from the sides of the lanes and highways. On most of such turf, though not a trace of a Plantain may have been left at turfing time, it will often be years before one gets rid of them, as so many seeds are imbedded in the turf, and need free access to air, to germinate. Few things mar the appearance of a lawn more, and if let alone, a single strong plant would soon require some feet for itself and its progeny, as the side shoots grow rapidly. In comparison with these, Daisies are a trifle, as unless very thick, the grass pretty well overtops them by this time. The Plantain, on the other hand, mars the look of the best-kept lawn. We noticed lately a cloud of Thistle down careering over our lawn, and dread them finding a resting place there.

As respects the *Plantain*, and other large succulent-leaved plants, we had a cask of prepared sand sent to us, price about 30*s.* per cwt., that was to do wonders, kill all the Plantains, Daisies, &c., and invigorate the grass at the same time. It so far answered that it did no harm to the grass, and applied to Plantains, a pinch between the thumb and two fingers to a good-sized plant, it soon shrivelled up the foliage, and seemed to kill the long root for a good distance, and a broom was only required to sweep up the black and shrivelled tops. Now, however, we perceive we are little or nothing the better, as the Plantains are appearing from the lower part of the roots again. We considered, therefore, that where time could be given, rooting-up was on the whole the most economical mode of destruction. This requires care, and a strong iron, best with a suitable handle, as cutting them up, or merely breaking or cutting the root a few inches below the surface, is but a very temporary relief, as in a few weeks you will have two or three shoots or broad Plantain heads instead of one. Care should be taken that the plant should be raised close to, or even with the extremity of the roots. We have measured many of these roots from 12 to 20 inches in length, and we know that if only a few inches next the surface of roots like these be removed, the plants will soon assert room for themselves.

The worst of taking up large roots at this season is that for a time there will be an empty spot on the grass, and before the grass grows over, that space will be below the level of the surrounding lawn. To lessen the continuance of this appearance, when we uproot many Plantains we scatter a few seeds of White Dutch Clover over the space, and when that is damped with a shower or dew we scatter over the seeds a little finely sifted soil, so as to make the spaces more level with the lawn, and then when the lawn is dry roll well over. A few fine Bents may be added with the Clover. A green surface is thus soon attained, and a little of this Clover is very soft. We regret we could not speak more enthusiastically of this chemically prepared sand, as it would otherwise be very suitable for small lawns, where a little first outlay would be more pleasant than spudding up weeds. Probably if used more freely than we did, it would be more destructive to all succulent-leaved plants. We find it did no injury to the grass plants even if sown broadcast—quite the reverse, but it killed the foliage of Daisies and Plantains.

The rains have washed off so many of the Calceolaria flowers, that we have had to grass over the beds, nipping off partially denuded trusses to give more room and strength to those coming on. We have also had to take away a few leaves from the scarlet Pelargoniums, as they are now quite luxuriant enough. Edgings also needed a little regulating. Grass mice are troublesome in raised beds where Verbenas are growing.

Made preparations by collecting fresh soil for propagating, and will commence with all flower-garden plants presently. The less artificial heat they all receive the better. Verbenas, Petunias, &c., we shall place in a cool pit; Pelargoniums chiefly in the open air. Much depends on sweet fresh soil, a little light rather than heavy. Cuttings that strike often do badly in winter from using old sour soil for the pots and boxes. If we give any manure at all, it is generally a little sweet dung or leaf mould at the bottom of the pots or boxes.

Pricked-out and potted according to age and size, plants of Primula sinensis; grew on double ones in a pit; potted Coleuses for autumn work, and put in cuttings to stand the winter, in little room. Potted Cinerarias, sowed Calceolarias, and cut down more Pelargoniums of sorts; the first cut down are now ready for repotting. Most of the soil will be shaken away, the roots trimmed a little, and put carefully in smaller pots, in light sandy soil, and kept shaded for a little until the roots are working freely in the fresh soil. Put Camellias in a shady place out of doors; Epacris and winter-flowering Heaths should now be in pits with glass, to defend them from showers, but with air back and front night and day, but fully exposed to the sun to ripen the wood. Sowed Mignonette and some annuals for the winter, proceeded with potting Ferns, and all plants requiring that treatment, and moving plants in the flower houses as often as they showed signs of distress, bringing in others to replace them.—R. F.

COVENT GARDEN MARKET.—August 18.

The market has been very unsteady, the chief attendance of buyers being on Saturday, rendering things of more value on one day than another. Supplies are ample, and foreign importations heavy. Shippers from the Channel Islands are also large senders.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	3	0	6	0	Nectarines ..... doz.	6	0	10	0
Cherries ..... lb.	0	6	1	0	Oranges 100	10	0	14	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	8	0	16	0
Currants .... ½ sieve	4	0	4	6	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	5	0	6	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	4	0	8	0	Plums ..... ½ sieve	3	6	5	0
Filberts ..... lb.	1	0	0	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	0	0	0	0	Raspberries ..... lb.	0	6	1	0
Gooseberries .. quart	0	6	1	0	Strawberries .... lb.	1	0	2	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts ..... bushel	10	0	16	0
Lemons 100	8	0	12	0	do. 100	1	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Kidney ½ sieve	2	6	4	0	Mushrooms .... pottle	3	0	0	0
Beet, Red ..... doz.	2	0	3	0	Mustd. & Cress, punnet	0	2	0	3
Broccoli ..... bundle	0	0	0	0	Onions .. doz. bunches	6	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	2	0	2	6	Peas ..... quart	0	6	1	6
Carrots ..... bunch	0	8	1	0	Potatoes ..... bushel	3	0	5	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	4	0	6	0
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb ..... bundle	0	0	0	6
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	0
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	6	0	0	Tomatoes ..... doz.	1	6	3	0
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	6
Horseradish .. bundle	3	0	5	0	Veget. Marrows .. doz.	1	0	2	8

TRADE CATALOGUES RECEIVED.

William Dillistone, Sible Hedingham, Essex.—*Catalogue of Choice New Plants, and Dutch and other Bulbs, &c.*

Giles & Pascoe, Grove Hill Nursery, Third Creek, and 12, Hindley Street, Adelaide, South Australia.—*General Catalogue of Trees, Plants, Shrubs, &c.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*A Learner*).—Two books will supply all the information you name. McIntosh's "Book of the Garden," and Stephens's "Book of the Farm." (*R.*).—Johnson's "Cottage Gardeners' Dictionary" contains the information you need.

Black Cluster Grapes (*A Constant Reader*).—Not knowing where they are grown nor your mode of culture, we cannot give an opinion as to the cause. See what we said last week about Sweetwater Grapes cracking.

Bedding Pelargonium (*W. Ashwell*).—There are now many varieties with leaves exactly like that you enclosed.

Caterpillars on Cherry Tree Leaves (*Linda*).—They are the slimy grub, the larvæ of the Selandria Æthiops, a species of saw fly. Dust the powder of fresh quicklime over them.

Lists of Flowers (*A Lover of Good Things*).—We always give the names of both species and varieties of all flowers and plants which we know to be good as well as new.

Poppies (*G. Mc.F.*).—The seed vessels of all Poppies contain opium, but there is none in their seeds. The Deadly Nightshade is one of the Natural Order Solanaceæ, totally distinct from the Umbelliferæ in which the Carrot is included.

Pelargonium Cuttings (*H. S.*).—They may be wintered very safely in your bow window; but you must exclude frost from them.

Seedling Scarlet Pelargonium (*I. L. D.*).—The petals had all fallen off; as far as colour and size of truss are concerned, it has no superiority over other varieties.

Do Birds Eat Alpine Strawberries? (*H.*).—Mr. Middleton mentions, as you perceive, a peculiar Alpine Strawberry. We know the birds taste the common Alpine, but we know they will never look at them when finer Strawberries are to be had. We have no doubt our correspondent will tell all he knows himself.

Succession of Strawberries (*Rev. E. H.*).—Knight's Princess of Wales, Vicomtesse Héricart de Thury, Sir Charles Napier, and Dr. Hogg.

Vicomtesse Héricart na Thury Strawberry (*J. B. D., Bitteswell*).—It was advertised in our number for August 5th.

Flower-bed Arrangement (*Banks of the Thames*).—We think you will like the planting of your beds as proposed. There are two things that strike us—the large beds, No. 1 and No. 8, will look well with the outside band of Mangles's Pelargonium and the double band of Stella, but we do not think that Alternanthus melancholicus will make a telling centre for Stella. As you seem to have no yellow on that side of the garden we should have a strong yellow Calceolaria, as Salviæfolia or Aurantia multiflora for the centre, and then you need not have yellow in 9, 9, but in II, 11. This would lighten up the colours better; and then we would like to edge all the beds. For instance, 3, 3, would be greatly benefited by a skirting of Purple King Verbena.

Grapes Swelling Irregularly (*A. Dumbell*).—It is difficult to say what is making the Vines swell their bunches irregularly. It is just possible that they wanted more nourishment. If you mean these Vines in pots to do any good next season they must not bear above three or four bunches this season, the foliage must have free access to the sun, and everything must be done by feeding to have the wood good and well ripened, leaving no more side shoots than the plant will sustain, and cutting these back to a bud or two when the leaves fall. As to the Vines planted, we should be inclined to cut them back to 2 or 3 feet after the leaves fall, encouraging growth all the summer; for a little sacrifice now the Vines will make amends afterwards. The Vines in pots we would not repot, but remove the surface for 2 or 3 inches in autumn, and fill up with rich compost.

Vines Newly Planted (*H. B.*).—The Vines will grow vigorously for some weeks yet, especially those planted in May, and we should advise your continuing to grow them on for a month or six weeks longer, and then secure the ripening of the wood by keeping them drier both at the roots and in the atmosphere, with a little fire by day and abundance of air. At this season you will not require fire heat. An abundance of air should be given. For such high front lights as yours appear to be, we should prefer their opening as casements, certainly not up and down like windows, or if they are they should be double-hung, both upper and lower parts moving.

Lady Downe's Grapes Spotted (*H. H.*).—The Lady Downe's is not more liable to spot than many other Grapes. The spot is anything but a new disease, being occasioned by an insufficient supply of sap. The roots being in a colder medium than the branches, the foliage exposed to very powerful sun, and the evaporation excessive, the supply of sap is not equal to the demand. The upper portions of the bunches are most liable to suffer, and invariably first, which shows that the same influence on the berries scalds them; therefore, care should be taken to have the bunches well protected by the shade of the foliage, and when this is the case spotting is seldom known. It prevents the roots becoming so inactive as they do when the foliage is scant; and the supply of sap is more regular, and its circulation not so liable to become inactive in case of undue moisture from excessive watering, or heavy rains. The grafting on the Red or Grizzly Frontignan would tend to cause the spot on the Lady Downe's, as the Frontignan is notorious for shanking—twin sister to the spot.—G. A.

Annuals for Autumn Sowing (*An Amateur*).—The Virginian Stock (Malcomia maritima), is the nearest approach to purple that we know of in a plant having the semi-prostrate habit of Saponaria calabrica. Purple Candytuft makes a splendid mass, but is of stiff erect habit, but if the plants are not allowed to grow too close together they branch well and close to the ground. Limnanthes Douglasii is the best yellowish-flowering annual for autumn sowing, and Eschscholtzia crocea is also good, but not equal to the Limnanthes, though a far better yellow.

Plant (*G. B.*).—We think the sprig is from a plant of the genus Echium, but which we could not say without a better specimen and leaves. Specimens should be sent packed in damp moss. It is probably a biennial. The seed should be saved and may be sown as soon as ripe in a bed of sandy soil enriched with leaf mould, or in April, the young plants being thinned out to 1 foot apart. Bees are very partial to all the Borageworts; a large bed of Borage ought to be in every garden where bees are kept. The old plants may be taken up from the walk and planted in sandy soil after the flowering is over and the seed ripe, for it may prove a perennial, but we think not.

Scale on Otaheite Orange (*De Foix*).—The black fungus is the result of honeydew, occasioned by a smallish insect you will find closely fixed along the sides of the midribs underneath the leaves. Remove that and the fungus will disappear. After dipping the plants in water at a temperature of 120° for a minute, the leaves should be washed on both sides with a sponge, employing soft soap, 4 ozs. to the gallon of water. Clarke's Compound, Fowler's Insecticide, and Gishurst Compound are good remedies if used as a wash, or for dipping the plants in. Orange fungus on Roses may be destroyed by forcible syringings and copious waterings.

Combe Abbey.—In the eleventh line from the beginning of the account of this place, page 126, first column, read *easterly*, instead of "south-westerly" direction, &c., also lower down in the same column, where the mansion is said to face the "west," read the *south*.

Solidago Virgaurea.—"Where can I obtain a few plants of the Aaron's Rod, the Solidago Virgaurea? I shall be happy to pay postage or to send other seeds in return.—J. L. Carrick, *Vicarage, Witham Friary, Frome*."

Rockery (*Cleopatra*).—With your dying Birch trees as a centre, we think a small rootery would be more in character than a rockery. We always think it bad taste to blend roots and conglomerate of bricks, &c. The old trees would be useful for sustaining Clematis, &c., and the roots would soon be enough covered with Sedums, Ferns, &c. Unless the trunk is very rotten, it would hardly be worth while scooping it out for an Aloe, as if so rotten it would not stand long, and Aloes would thrive better in a rough box on the ground level. The best things to cover old rotten trunks with are Sempervivums, Sedums, and the common Polypody. By making holes in old stumps we have enticed robins, and that most elegant of British birds, the wagtail, to build their nests, and both became tame when well used.

Gardening Arithmetic (*J. T. B.*).—Surely a person who writes so well need not ask us how many plants will be required for a bed 50 feet long, 4 feet wide, to be placed in the rows 3 feet apart, and 2 feet asunder in the rows. If no more simple mode offers, take a measuring rule with inches marked in tenths, and 5 inches will thus represent 50 feet in length, and 4-10ths inch will represent the width of the bed. The bed, we presume, will have two rows, 3 feet by 2—rather thin planting for most things. The number of plants will be obtained at less trouble than making the inquiry. The other question is a little more puzzling. "Required the number of cubic feet in a bed 50 feet in diameter, and 1 foot deep," merely because there are so many modes for taking and finding the area of a circle. We will put you in the way of working out the problem for yourself. The diameter given, we can obtain very nearly the circumference by the old rule: As 7 is to 22, so is the diameter to the circumference. Perhaps a more correct mode is simply to multiply the diameter by 3.1416, the last four figures being decimals. The circumference being thus found nearly, as well as the diameter, the next thing is to find the area of the space bounded by the circumferential line. Here, again, various modes may be adopted. One mode is, to square the diameter and multiply by .7854. Another is, as 7 is to 22, so is the square of the radius to the area of the circle. The radius is half the diameter, in this case 25 feet. This multiplied into itself, and the product multiplied again, as above, by 22, and divided by 7, will give the area nearly. Another plan is to multiply the circumference and the diameter together, and then divide by 4. It must be kept in mind that a square foot contains 144 inches, and a cubic foot 1728 inches.

Protecting Plants in a Pit (*X. Y. Z.*).—The chief difficulty you will have in your pit, sunk 2 feet into clay, and floored with Portland cement, arises from the fact, that if the sides and ends of boards are not secure, damp will visit you from the clay; and if you spill water in winter it will be evaporated from the waterproof flooring, and rise again among the plants. You must, therefore, be careful not to spill water in winter. Your idea of double wooden walls is good, and, as stated lately, we would prefer the space between to be open if you can make that space airproof; if not, pack with felt, peat, sawdust, &c. Having double sashes for your pit or box, will also be useful, and the more so, that in mild weather you can take the upper one off. For tall plants you will want the depth you have—4 feet in front, and 9 behind; but if you want to keep a great many plants, say from 6 to 15 or 18 inches in height, we would have a rough sloping stage to fit the pit, and to be lifted out when not wanted, say at from 18 to 24 inches from the glass, and this will enable you to keep the plants near the glass, and the open space beneath will do much to secure equality of temperature. Even with your double lights you will need a

mat in a severe night, and a gallon bottle filled with hot water will also greatly help you.

Heated Greenhouse (*M. E. G.*).—With your trellis from 9 to 12 inches from the wall, you may grow the Passiflora and the Ipomœa well, without anything behind it; but you might have some rough clinkers against the flue or chimney. If you covered the trellis with the Passiflora, &c., you would not have light enough for Mosses and Ferns in the space between the wall and trellis. The moss, cocoa-nut, &c., would also be apt to sink, and if kept damp, as you suggest, it would soon rot the trellis. You might combine both purposes; have arches spanned for the climbers, and make a rough irregular wall with stones, boulders, clinkers, and cement, with spaces left for the Ferns, Mosses, Begonias, &c.

Names of Plants (*F. E. H.*).—Tacsonia mollissima; Desfontainia spinosa. (*Sarah Pierson*).—1, Leaf of the Tulip Tree, Liriodendron Tulipifera; 2, Cystopteris fragilis; 3, Rhynchospermum jasminoides, now called Parechites Thunbergii. (*W. O.*).—1, Adiantum capillus-Veneris; 2, Microlepia novæ-zelandiæ; 3, Adiantum hispidulum; 4, not received; 5, Selaginella Kraussiana; 6, Doodia caudata. (*D. C. G.*).—1, Sedum ibericum; 2, Sedum sexangulare; 3, Pellæa rotundifolia; 4, Davallia solida; 5, Adiantum formosum; 6, A. affine. (*E. L. J.*).—2, Litobrochia lucisa; 3, Asplenium monanthemum; 4, is most probably a state of Lastrea Filix-mas. (*G. S.*).—Æsculus macrostachya, or Pavia macrostachya. (*W. W., Reading*).—Momordica charantia. (*M. H.*).—1, Verbascum phlomoides (?); 2, Verbascum austriacum (?); 3, Hellanthus perfoliatus; 4, Francoa sonchifolia. (*J. H. S.*).—Rhus cotinus, the Sumach tree. (*D. G.*).—1, Lastrea oreopteris; 2 and 4, both Cystopteris fragilis; 3, Asplenium viride; 4, Nephrodium effusum. (*C. Williamson*).—Nepeta cæsia.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 17th.

Date.	Barometer.		Thermometer.				Wind.	Rain in inches.	General Remarks.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 11	29.931	29.790	67	35	61	59	N.W.	.00	Cloudy but fine; showery; clear and fine.
Thurs. 12	29.997	29.984	72	43	60	58	W.	.23	Very fine; exceedingly fine; fine at night.
Fri.... 13	29.878	29.796	70	46	60	58	N.W.	.20	Rain; heavy showers; clear and fine.
Sat.... 14	30.175	29.985	69	42	61	58	N	.02	Cloudy; densely clouded; clear.
Sun... 15	30.278	30.238	74	47	60	58	N.W.	.00	Fine but cloudy; overcast; densely overcast.
Mon... 16	30.265	30.230	73	51	63	59	N.W.	.04	Overcast; densely overcast; cloudy.
Tues.. 17	29.270	30.281	68	36	61	60	N.E.	.00	Very fine; overcast; cold wind; clear and fine.
Mean..	30.110	30.043	70.43	42.86	61.29	58.57	...	0.48	

POULTRY, BEE, AND PIGEON CHRONICLE.

NOTES MADE DURING SOME RUSTIC RAMBLES.

What an odd little place is this! The ceiling is so low that I am positively nervous when I rise from my chair. A great beam runs across the room, reminding one of generations that have passed away who knew no better, but yet did what they could, and that is all we must expect. The room adjoining, designated the hall, but evidently intended for a sitting-room, although the front door opens into it, smells strongly of something quite the reverse of agreeable. What can it be? "Oh, sir," says the hostess, "it's only the straw beneath the matting, put there to keep the damp away!" Yet as I look out, there are evident signs of modern ideas and modern improvements. Elaborate iron supports for wheat-ricks, costing, I am told, £15 each, demonstrate the care the owner takes to guard his produce from petty thieves; while the new buildings, with the noble and really handsome hay-ricks in the yard, prove that a vigorous mind rules around. Look, too, at the horses, grand specimens of their class, evidently intended for work, and yet as handsome as one could wish. But the men interest me most; for they are such as I should like to see oftener—sturdy, stalwart, stout-built, Sussex peasantry that would gladden the heart of Mr. Fawcett, if only he could see them. To crown the prospect, there rises at no great distance a school newly built, the gift of a proprietor who recognises the saw of good Mr. Drummond, that "property has its duties as well as its rights." With such pleasant sights around, I must admit that I care little for the low ceiling of my sitting-room, or the damp smell of the hall.

I fear, however, I am rambling too far. I sat down to say a few words on poultry, but have not yet reached the starting-point. The Speckled Dorkings in front remind me of the theme I should pursue, while the crossbred Ducks confirm what I have always heard, and my host assures me is the case, that the Aylesburys are not adapted for the ordinary purposes of the farmyard.

How different was the scene a few days since! In a remote village of Northamptonshire I happened to hear that an old hen-wife had some White Dorkings which she highly valued. Proceeding to her house, I learnt she had kept the same strain for twenty years, obtaining them originally from one sitting of eggs, and never having introduced fresh blood from that time to this. The statement may appear incredible, but I believe it to be true. You can easily imagine the result—crooked backs and stunted forms appeared on all sides. "How many chickens have you this year?" I inquired. The old woman shook her head mournfully. "I set two hens, but have had no chicks." "How many did you have last year?" "It may be a dozen or fifteen," she replied. "I kept a few, but most on 'em I killed. But I ba'nt agoing to keep any more, as I find they don't pay me." "Of course they don't," was my answer; "if you farming folk refuse to apply to your poultry the same observation and skill you are compelled to apply to your land, you must not expect them to pay."

Rumbling five miles further, I heard of a young farmer who was reputed a great fancier, and who, at all events, is the first of his class that I have met who attempts to keep poultry on a large scale and on a scientific system. I have for some time intended to advocate his plan in the columns of the Journal; now, however, I can only describe what I have seen, while possibly some of your readers can give further details from their own experience. His plan is as follows:—

He has a number of small houses which run on wheels, and which are capable of accommodating from forty to seventy fowls. The cost of each of these he tells me, is from £3 10*s.* to £4, so that the experiment is at all events not an expensive one to begin with. These houses he places in the midst of his grass fields, as well as close to the ploughed lands, allowing them to remain there about a fortnight. They are cleaned out every day, and the manure is spread over the adjoining land. The allowance of food, a question often asked, but rarely answered, is a gallon of barley or oats for twenty-four fowls per diem. On the whole, he seemed quite satisfied that the experiment is a satisfactory one. Yet, I must confess, I was not quite satisfied with his management. Examining his yards I found that he had a large number of old birds, than which I cannot conceive a greater mistake, if fowls are to be profitable. No hen should, in my opinion, be allowed to live beyond a year or eighteen months, if profit is an object, and no cock beyond two years. You thus obtain a far larger number of eggs, and the hens, moreover, are fairly good eating when they are killed. But little regard, moreover, seemed to be paid to the sort of fowl, a point which is certainly of great importance. It is commonly said, that a cross between a Light Brahma and a Dorking is the most useful for practical purposes; but on this point I should like to hear further evidence. A henwife who supplies the London markets with early chickens, tells me that size is not a matter of importance, as small fowls bring as good a price as large; but it is important to keep a sort of which the chickens are not difficult to rear. The waste. I can apply no milder term, of poultry in most farmyards, is something terrible. This year I have lost five or six chickens, many of them hatched early in March, out of about seventy Dorkings; and yet I could name several farmyards where the loss has amounted to nearly 50 per cent., and generally, as it seems to me, through carelessness and neglect.

I cannot but believe that the system of keeping poultry in moveable houses would answer, if carried out systematically. An elderly man beyond hard work might be employed, at a cost of 9*s.* or 10*s.* per week. He would see the houses moved, and cleaned, the chickens fed, the doors closed at night, and the eggs duly collected. I should imagine that in this way in

a farm of 400 acres, with the ordinary outhouses, two or three thousand fowls might be kept, and I am persuaded that the experiment would be successful.—E. M. B. A.

"WHERE IS THE EXHIBITION?"

I think if secretaries of shows when inserting the date, &c., of their meetings would at the same time name the county or large town the place is near, it would be a great boon to exhibitors, as in many instances, although I have an atlas, I am at a loss to know whether the place is north or south, far or near, and therefore don't know whether it is worth while to enter or not.—Frank Graham.

[Our correspondent is not the only one who has made a similar complaint, and letters asking "Where is the Exhibition?" are continually received by us. There is one exhibition that to the time we are writing we do not know where it is to be held.—Eds.]

COMPOUND FOODS FOR FOWLS.

Mr. Wragg's recommendation of Dear's food will doubtless receive the attention it deserves, coming, as it does, from one of the most eminent breeders of the day; but let me suggest a caution or two to those who have not tried it, founded on an experience of eighteen months. It is, unquestionably, very useful for chickens, but then the question arises, Is it advisable or necessary to continue the use of it with full-grown fowls? I believe it is; that, in fact, the breeder who once uses it must continue its use, or his fowls will droop and die. I well remember going to one of my yards this spring, and noticing that the fowls did not look so well as usual. Something was evidently wrong, and I naturally began to make inquiries. At length I learnt that Dear's food had been discontinued for a week. As soon as the stimulant was added again, the birds resumed their former appearance. In another yard my experience was exactly similar, and a week's discontinuance of the food would soon tell a tale which would undeceive many who are now enthusiastic in their commendation of the new compound.

The truth, I am persuaded, is that Dear's food is like most other stimulants, it is all very well in its way, but yet requires much care in its use. Brandy, we know, is an excellent corrective, but the more water we drink with it the better it is for us. If we once accustom ourselves to take it in large quantities, we cannot well desist from the habit, without at all events suffering unpleasant consequences. I believe that breeders in time will find it necessary to diminish the amount of the stimulant as the birds grow older. Those who aim at size do not, I imagine, care to see "the rich red," of which your correspondent speaks, in chickens of three or four months old, or to find their pullets laying at about the same age. Having lately had an opportunity of comparing two yards, in one of which Dear's food was used, I must honestly say that I preferred the look of the birds in the yard where no stimulant was added to the ordinary food.

Let me also suggest a caution to those who are buying fowls. It will be very advisable to learn how the fowls have been fed before you buy them. If they have been accustomed to this stimulant, the purchasers must continue it, or they will probably lose their birds. Any of your correspondents who have a turn for chemical analysis would confer a favour on your readers if they would tell us the ingredients of this compound. I strongly suspect that malt dust and linseed enter largely into its composition.—E. M. B. A.

Without in any way wishing to dispute the high value of the prepared food that Mr. F. Wragg alludes to in his letter of last week, I would just say, for the help of the too-often-overlooked fancier of small means, that it is not necessary in prize-winning to spend money upon such kinds of food; at least, my own experience of the last three years dictates such conclusion, never having used any one kind of prepared food, though I have taken a fair amount of prizes, including cups and many first prizes. I have just received from the show my first two pens of chickens exhibited this year, one pen taking a cup, beating twenty-two pens of birds, the other pen taking the first prize in its class. These birds were only five months and a half old, and weighed 13½ lbs. and 15½ lbs. per pen, and competed in each case with older chickens, and fed, too, with such foods. If persons will feed liberally on the best of our home-grown grain, care being taken that all is eaten each meal; give clean water, clean runs, and clean houses, they have the same chance of winning, and I am sure their birds will live longer, and thereby be more profitable.—L'Ane.

DEWSBURY POULTRY SHOW.

The arrangements for this Show, held on the 13th inst., were very complete, and the attention devoted by the Committee to the specimens was of the most unexceptionable character. Nothing was left undone that could be done to insure perfect success, and all the pens were safely placed under commodious and perfectly waterproof tents. On the morning of the Show it rained incessantly, at four o'clock, but fortunately the day proved very fine, and a complete success was secured. This provision against stress of weather, cannot be impressed too strongly on the attention of all poultry committees who may purpose holding their meetings out of doors on similar occasions.

Although the bulk of the birds were necessarily more or less under moult, many were shown in first-class condition. Among the latter we may especially note the *Cochins*, *Brahmas*, and *Spanish* fowls. *Hamburghs* were very few, but very good, and the *Polands* were unusually perfect specimens. Some most excellent Game *Bantams*, both Black Reds, and also Duckwings, competed. The Black and the White *Bantam* classes were not so good in feather as could be desired. Of Aylesbury and Rouen *Ducks*, the entry was not large, but a few of the winning birds were first-rate.

Pigeons.—The Poutera and Carriers were a very good show. Mr. Fielding was, as usual, first and second for Owls, and in Almonds won with a good pair. In the class for Tumblers of any other variety, he was also first with a well-matched and good pair of Black Mottles. In Barbs, which was a very good class, Mr. J. Frith, jun., was first with a very good pair of Yellows, Mr. Horner being second with Blacks, this gentleman also winning with Jacobins, and gaining first and second prizes for Trumpeters; but we think Mr. Frith's Blacks were quite equal to the winners, and should not be surprised if they reversed positions some day. Mr. Hawley won in the Fantail class with a good pair, and Mr. Croft in Nuns, with Blacks of superior quality. We cannot take leave of this excellent Show without giving a word of praise to the managers, who had all the birds sent off the same evening.

Cochin-China.—1, C. Sidgwick, Ryddlesden Hall, Keighley. 2, J. Turton, Ackworth. *c*, J. H. Dawes, Birminghsm. *Chickens.*—1 and 2, C Sidgwick.

Spanish.—1, H. Beldon, Goitstock, Bingley. 2, J. Gornall, Bradford. *hc*, W. & F. Pickard. *Chickens.*—1. W. & F. Pickard. 2, H. Beldon.

Dorkings.—Prize, W. H. King, Moss Mill.

Brahma Pootra.—1, E. Leach. 2, C. Layland. *Chickens.*—1, M. Scott, Cote, Idle. 2, W. Gamon, Chester. *hc*, E. Leach, Greave House, Rochdale.

Game (Black Red).—1, G. Noble, Stsincliffe, Batley. 2, C. Chaloner, Whitwell, near Chesterfield. *c*, H. Beanland, Bradford. *Chickens.*—1, J. Crosland, jun., Wakefield. 2, C. Chsloner. *c*, E. A. Johnson, Wathupon-Dearne.

Game (Brown Red).—1, C. Chaloner, Whitwell, near Chesterfield. 2, H. Jowett. *hc*, J. Crosland, Wakefield. *Chickens.*—1, H. Hatton, Cleckheaton. 2, H. Jowett. *c*, T. Dyson, Halifax; H. Jowett.

Game (Duckwings and other Greys and Blues).—1, H. Jowett. 2, G. Noble. *c*, J. Fell. *Chickens.*—1, C. Chaloner. 2, T. Dyson, Halifax.

Game (Any other variety).—1, H. C. & W. J. Mason. 2, W. Fell. *Chickens.*—1, W. Whiteley, Liversedge. 2, E. Noble, Halifax. *c*, H. C. and W. J. Mason, Drighlington.

Hamburghs (Gold or Silver-spangled).—1 and 2, H. Beldon. *hc*, S. and R. Ashton, Mottram. *Chickens.*—1 and 2, H. Beldon.

Hamburghs (Gold or Silver-pencilled).—1 and 2, H. Beldon. *hc*, S. S. Smith, Northowram, Halifax. *Chickens.*—1, H. Beldon. 2, W. Jagger, Ford Mill, Horbury. *hc*, S. Smith.

Hamburghs (Black).—1, H. W. Illingworth. 2, C. Sidgwick. *Chickens.*—1, C. Sidgwick. 2, S. Butterfield, Keighley.

Polands (Gold or Silver).—1 and 2, H. Beldon. *Chickens.*—1 and 2, H. Beldon.

Polands (Any other variety).—1, T. Dean, Keighley. 2, W. Gamon. *c*, Mrs. E. Proctor, Hull. *Chickens.*—Prize, W. Gamon.

Bantams (Black).—1 and 2, Master F. Ridgway, Dewsbury. *hc*, Messrs. S. & R. Ashton; W. Brotherton. *c*, H. Beldon.

Bantams (White).—1, S. & R. Ashton. 2, J. Kaye, Stainclifle.

Game Bantams.—1, W. F. Entwisle, Leeds. 2, J. Crosland, jun. *hc*, J. R. Robinson, Sunderland. *c*, G. Noble, Stsincliffe, Batley.

Ducks (White Aylesbury).—Prize, E. Leach, Rochdale.

Ducks (Rouen).—1, E. Leach. 2, W. Gamon.

Rabbits.—*Lop-eared Buck.*—1, T. Ingham, Leeds. 2, C. Gravil, Thorne. *hc*, B. Hudson, Hull. *Lop-eared Doe.*—1, A. H. Easten, Hull. 2, F. Mitchell, Bowling Park, Bradford. *hc*, T. Ingham, Leeds. *Any other Variety.*—1, A. H. Easten, Hull (Himalayan). 2, E. Farrance, Dewsbury. *hc*, T. Mitchell, Bradford (Himalayan).

PIGEONS.

Pouters.—*Cock.*—1, E. Horner, Harewood, Leeds. 2 and *c*, R. Fulton, Deptford. *hc*, W. Gamon, Chester. *Hen.*—1, E. Horner. 2, R. Fulton. *hc*, R. Fulton; E. Horner.

Carrier.—*Cock.*—1 and 2, R. Fulton. *hc*, A. Smith, Skipton; W. Whittaker, Belper; R. Fulton. *Hen.*—1 and *c*, R. Fulton. 2, W. Whittaker, Belper. *hc*, A. Smith, Skipton; R. Fulton.

Tumblers (Almond).—1, J. Fielding, jun., Rochdale. 2, R. Fulton. *c*, J. Hawley, Bingley.

Tumblers (Any other variety).—1, J. Fielding, jun. 2, R. Fulton. *hc*, J. Hawley; W. Whittaker; R. Fulton.

Turbits.—1, E. Horner. 2, Marshall & Pickering, Driffield.

Barbs.—1, J. Frith, jun , Webster Hill, Dewsbury. 2, E. Horner, *hc*, J. Fielding, jun.

Jacobins.—1, E. Horner. 2, R. Fulton. *hc*, J. Hawley.

Trumpeters.—1 and 2, E. Horner. *hc*, J. Frith, jun.; W. Gamon.

Owls.—1 and 2, J. Fielding, jun. *hc*, T. Eggleston, Halifax,

Fantails.—1, J. Hawley. 2, E. Horner.

Nuns.—1, W. Croft, Killinghall, Ripley. 2, H. Yardley.

Dragoons.—1, H. Yardley, Birmingham. 2, W. Whittaker. *hc*, J, Senior, Batley Carr.

Antwerps.—1, H. Yardley. 2, J. Crosland, jun. *hc*, W. Whittaker.

Any other Variety.—1, E. Horner (Red Swallows). 2, H. Yardley. *c*, W. Whittaker (Hyacinths).

Edwd. Hewitt, Esq., of Birmingham, judged the poultry; and M. Hedley, Esq., of Redhill, Surrey, the Pigeons and Rabbits.

LOWESTOFT POULTRY SHOW.

(*From a Correspondent.*)

This Show was held on the 11th and 12th inst. There was a great increase in the number of entries this year. The pens contained many birds of considerable merit, and many of the pens in the chicken classes will be heard of again, but some of the birds had not arrived when the Judges awarded the prizes. Two pens that doubtless would have been winners did not arrive till six o'clock on the evening of the first day of the Show.

There were classes for adult birds and chickens, Mr. Gilliver took the cup for *Game* with a beautiful pen of Brown Reds; Mr. Matthews took the prizes in the chicken class with some good birds. The *Dorking* cup went to a pen of birds in the adult class shown by Mr. Parlett, and in the chicken class the prizes went to promising chickens. The *Spanish* cup was carried off by Mr. Newbitt, with a pen of good birds, and in the chicken class the pens shown by Mr. P. H. Jones and Mr. James were worthy of the prizes. Mr. Horace Lingwood showed a splendid pair of Partridge *Cochins* in the chicken class, which carried off the cup against twenty-three pens. The *Brahma* cup was awarded to Mr. Dowsett for a pen of Dark birds, and in the chicken class Mr. H. Lingwood was first. The *Hamburghs* were not numerous, but some pens were excellent, particularly Mr. Tickner's Gold-pencilled which took the Hamburgh cup. The *Bantam* cup was awarded to a very beautiful pen of White Japanese shown by Miss M. Jodrell; Messrs. Crosland, Adams, and Entwisle carried off the remaining prizes for Bantams.

Pigeons were indeed a show of themselves, each class was well filled, and many first-class birds were shown in every class, especially in Carriers. Messrs. Massey & Fulton showed some good Black cocks; but Mr. Yardley's Dun hen has a remarkable eye and was worthy of the first prize. Mr. Fulton's Black was all that could be desired in symmetry and carriage, but not so good in eye as the first-prize bird, Mr. Wren showed a young Dun hen eleven months old, a very promising bird, which will doubtless be heard of again in a prize pen. Mr. Fulton was as usual invincible in the Ponter classes; the first-prize Blue is a grand bird. Some pens of Almonds were very good in head and beak, but it is difficult to find many pens well matched. The long-faced Tumbler class was well filled, and amongst the pens were some good Beards and Mottles. Messrs. Hawley, Fulton, Jones, and Massey, showed good Barbs; and the Fantails were a strong class. Mr. Hawley was first with a good pen. Antwerps were numerous and good, but a very difficult class to judge. The "Variety class" contained a number of very good birds. Black Owls took first and Silver Barless Ice second; Red Turbits an extra second. The race for the Pigeon cup was very close, Mr. Fulton making thirty-six points, and Mr. Hawley, to whom the cup was awarded, thirty-seven.

Game (Any variety).—1, Cup, and *hc*, W. Gilliver, Polesworth, near Tamworth (Black Reds). 2, S. Matthews, Stowmarket (Black Reds). *Chickens*,—1 and 2, S. Matthews (Black and Brown Reds). *c*, W. Rayner, Ipswich (Brown Reds).

Dorkings (Any variety).—1 and Cup, P. Parlett, Great Baddow, Chelmsford (Coloured). 2, Henry Lingwood, Bark ng, Needham Market. Local, G. W. D. Palmer, Pakefield. *hc* J. Frost, Parham, Wickham Market (Colonred). *c*, Mrs. Brackenbury, Thorpe Hall Farm, Downham (Colonred). *Chickens*.—1, T. Briden, Earby, near Skipton. 2, J. Frost (Coloured). Local, C. H. Skeels, Kirkley. *hc*, D C. Campbell, M.D., Brentwood; Rev. F. Tearle, Gazeley Vicarage, Newmarket (White). *c*, F. Parlett Coloured).

Spanish.—1, Cup, and 2, T. C. & E. Newbitt, Epworth. Local, W. B. Farrett, Lowestoft. *hc*, F. James, Peckham Rye. *c*, J. Stephens, Walsall. *Chickens*.—1, F. James. 2, P. H. Jones, Fulham, London. Local, W. B. Ferrett.

Cochin-China (Any variety).—1, Henry Lingwood (Buff). 2, Horace Lingwood, Martlesham, Woodbridge (Partridge). *hc*, J. Stephens. *c*, Col. Cockburn, Bracondale, Norwich (White); Henry Lingwood (Buff); Horace Lingwood (Partridge). *Chickens*.—1 and Cup, Horace Lingwood (Partridge), 2, F. W. Rust, Hastings Buff). *hc*, Miss Hales, Canterbury (White); W. Tippler, Roxwell, Chelmsford (Buff). *c*, Mrs. Burrell, Stoke Park, Ipswich.

Brahma Pootra (Any variety).—1 and Cup, H. Dowsett (Dark). 2, Mrs. Burrell. *c*, Horace Lingwood (Dark). *Chickens*.—1, Horace Lingwood (Dark). 2, Mrs. Burrell. *hc*, H. Dowsett (Dark).

Hamburghs (Golden-pencilled).—1 and Cup, W. K. Tickner. 2, T. C. and E. Newbitt. Local, J. Taylor, Lowestoft. *c*, C. Havers, The Beacons, Ingatestone; J. Laming, Cowburn, Spalding.

Hamburghs (Silver-penci led .—1, H. Pickles, jun., Earby, Skipton. 2, J. Laming. Local, W. Maddison.

Hamburghs (Golden-spangled).—1, J. F. Loversidge, Newark-on-Trent. 2 and Local, L. Wren, Lowestoft.

Hamburghs (Silver-spangled).—1, J. Laming. 2, Rev. F. Tearle. Local, J. B. Bly, Lowestoft. *c*, J. W. Tooley, Downham Market; R. Fulton, Deptford.

Hamburghs (Any variety).—*Chickens*.—1, H. Pickles, jun. 2, W. K. Tickner, Ipswich (Golden-pencilled). Local, J. B. Bly (Silver-spangled). *hc*, Rev. F. Tearle (Silver-spangled).

Any Distinct Variety not before Mentioned.—1, J. Laming (Polands). 2, Col. Cockburn (Houdans). *hc*, Mrs. Burrell (Silkies); W. Dring, Faversham (Houdans). *c*, W. Tippler (La Flèche).

Selling Class (Any variety).—1, T. C. & E. Newbitt. 2, S. Felgate, Ipswich (Light Brahma). *hc*, F. Parlett (Dorkings); R. R. Parker, Ipswich (Golden-pencilled Hamburghs); W. Dring (Houdans). *c*, W. H. Mitchell, Moseley, Birmingham (Game); Mrs. Brackenbury (Aylesbury Ducks).

Game Bantams (Any variety).—1, J. Crossland, jun., Wakefield. 2, W. Adams, Ipswich. Local, C. H. Skeels. *c*, W. F. Entwisle, Leeds (Black-breasted).

Bantams (Any other variety).—1, Cup, and Local, Miss M. Jodrell, Gisleham Rectory (Japanese). 2, Miss A. Hodson, North Petherton, near Bridgewater (Sebrights). *Chickens*.—1, Miss A. Hodson (Sebrights). 2, W. F. Entwisle (Black-breasted Red). *c*, E. Prentice, Stowmarket (Black-breasted Red).

Ducks (Rouen).—1, J. T. Ashley, Litcham, Norfolk. 2 and Local, G. W. D. Palmer.

Ducks (Aylesbury).—1, C. Havers. 2 and *c*, Mrs. Burrell. *hc*, Major C. J. Ewen, Norwich.

PIGEONS.

Carriers.—*Cock*.—1, R. Fulton. 2, W. Massey, Spalding. *hc*, R. Fulton; J. Hawley, Bingley. *c*, L. Wren. *Hen*.—1, H. Yardley, Birmingham. 2, R. Fulton. *hc*, R. Fulton; L. Wren; J. Hawley. *c*, W. Massey; P. H. Jones.

Ponter.—*Cock*.—1 and 2, R. Fulton. *hc*, P. H. Jones. *Hen*.—1 and 2, R. Fulton. *c*, P. H. Jones.

Tumblers (Short-faced).—1, R. Fulton (Almonds). 2, J. Hawley. *hc*, R. Fulton (Mottles). *c*, M. Beazor, Yarmouth (Almonds); P. H. Jones; J. Hawley.

Tumblers (Any other variety).—1 and *hc*, J. Hawley. 2, Misses E. & A. Wren, Lowestoft (Yellow Beards).

Barbs.—1, J. Hawley. 2, R. Fulton. *hc*, W. Massey; P. H. Jones. *c*, W. Massey.

Fantails.—1, J. Hawley. 2, H. Yardley. *hc*, P. H. Jones. *c*, W. Massey; J. T. Ashley.

Antwerps.—1, J. Hawley. 2, W. H. Mitchell. *hc*, H. T. Yardley; J. Hawley. *c*, P. H. Jones; J. Hawley.

Any Distinct Variety.—1, J. Hawley. 2, Hon. Mrs. Paget, Scole (Ice). Extra 2, P. H. Jones (Turbits). *hc*, R. Fulton (Owls); P. H. Jones (Owls, Nuns, Magpies, and Jacobins). *c*, W. Massey; J. T. Ashley (Runts) J. Hawley.

Selling Class (Any variety).—1, Hon. Mrs. Paget (Owls). 2, P. H. Jones (Barbs). *c*, W. Massey; P. H. Jones (Jacobins); L. Wren (Short-faced Tumblers); J. Hawley.

Judges.—Rev. T. L. Fellowes, Honingham Rectory, Norwich, and W. B. Tegetmeier, Esq., London.

ALDBOROUGH AND BOROUGHBRIDGE POULTRY SHOW.

This was a very good Show, and was held on the 13th inst. in the interesting grounds of Aldborough Manor. The quality of the poultry exhibited was good, and it is surprising that exhibitors will show such stock for small prizes. The day was fine, the poultry well attended to, the pens good, and the Show altogether a success.

Dorkings.—1, H. S. Thompson, Kirby Hall. 2, W. Bearpark, Ainderby Steeple.

Spanish.—1, W. Bearpark. 2, W. & F. Pickard, Thorner, near Leeds. *hc*, W. & F. Pickard.

Game.—1, J. Watson, Knaresbrough. 2, W. Bearpark. *c*, J. Watson; G. Carter, Sandhill, Bedale.

Cochin-China.—1, W. Barnes, Thirsk. 2, W. & F. Pickard. *hc*, W. Barnes. *c*, J. Walker, Hay-a-Park, Knaresborough; G. Robinson, Sessay.

Brahma Pootra.—1, F. Powell, Knaresborough. 2, F. Horsman, Boroughbridge. *hc*, H. S. Thompson. *c*, Miss E. A. Dalton, Sleningford Grange, Ripon.

Chickens.—1, W. & F. Pickard. 2, W. Barnes. 3 Miss E. A. Dalton. *hc*, H. S. Thompson; W. Barnes. *c*, W. Metcalf, Grafton High Bar; W. Bearpark; G. Robinson, Easingwold; F. Horsman; J. Watson.

Hamburghs.—*Golden-spangled*.—1 and 2, J. Walker. *hc*, W. Bearpark. *Golden-pencilled*.—1, J. Walker. 2, F. Horsman. *c*, F. Horsman. *Silver-spangled*.—1, J. Walker. 2, J. Best, Boroughbridge. *Silver-pencilled*.—1, J. Walker. 2, W. Bearpark.

Poland.—1, C. Walker, Boroughbridge. 2, W. Lousdale, Aldborough.

Chickens.—1 and 2, J. Walker. 3, F. Horsman. *hc*, W. Bearpark. *c*, C. Walker.

Game Bantams.—1, J. Pennington, Thirsk. 2, F. Powell. *hc*, J. Walker; G. Carter, Sandhill, Bedale. *c*, Miss E. M. Ellerby, Easingwold.

Bantams (Any variety).—1, J. Walker. 2, F. Powell. *hc*, J. Cartwright, Sowerby, Thirsk.

Bantams (Any other variety).—1, Rev. J. G. Milner, Bellerby, Leyburn. 2, J. Walker. *c*, R. Wilson, Thirsk.

Turkeys.—1, T. Smith, Staveley. 2, I. Moorey, Mulwith. *hc*, F. Parker, Roecliffe. *Poults*.—1, F. Parker. 2, I. Moorey.

Geese.—1, J. Walker. 2, S. Renton, Ox Close, Ripon. *hc*, S. Renton. *Goslings*.—1 and 2, Mrs. Smith, Humburtoo. *hc*, I Moorey. *c*, S. Renton.

Ducks (Aylesbury).—1, G. Robinson. 2, J. Cuthbertson, Aldborough. *c*, Miss E. A. Dalton. *Ducklings*.—1, H. S. Thompson. 2, J. Handley, Skelton, Ripon.

Ducks (Rouen).—1 and 2, C. Graham, Aldborough. *hc*, A. S. Lawson, Aldborough Manor. *Ducklings*.—1, J. Handley. 2, J. Mason, Rooker Hill.

Ducks (Any other variety).—1, Rev. J. G. Milner. 2, J. Walker. *hc*, J. Walker. *hc*, Miss E. A. Dalton. *c*, C. Rutherford, Thirsk.

Guinea Fowls.—Prize, S. Renton.

Selling Class.—1, W. & F. Pickard. 2, J. Mason. *hc*, J. Walker; J. Watson; G. Carter.

PIGEONS.—*Pouters.*—1, W. Bearpark. 2, J. Walker. *Carriers.*—1, J. Masson. 2, J. Greaves, Brampton Hall. *Trumpeters.*—1, J. Cundale, Copt Hewick, Ripon. 2, R. Wilson. *hc*, J. Mason. *Jacobins.*—1, J. Mason. 2, W. Bearpark *hc*, J. Walker. *Fantails.*—1 and 2, J. Mason. *c*, J. Walker; W. Bickerdike, jun.; R. Wilson. *Tumblers.*—1 and 2, J. Mason. *c*, J. Greaves; R. Wilson. *Barbs.*—1, J. Fox, Thirsk 2, R. Wilson. *c*, J. Cundale. *Nuns.*—Prize, W. Bearpark. *Turbits.*—1, R. Wilson. 2, J. Mason. *hc*, W. Bearpark. *Any other Variety.*—1, J. Mason. 2, J. Cundale. *hc*, J. Mason; R. Wilson. *c*, J. Cundale. *Selling Class.*—1 and 2, J. Mason. *hc*, J. Fox. *c*, T. Scott, Broom Close, Boroughbridge.

RABBITS.—*Buck* (Any breed).—1, Slade. 2, G. Rutherford, Thirsk. *hc*, J. Ridsdale, Boroughbridge. *Doe* (Any breed).—1, I, Slade. 2, A. S. Lawson, Aldborough Manor. *hc*, I. Slade. *c*, J. Topham, jun., Boroughbridge; A. Geldart, Boroughbridge.

EXTRA STOCK.—*hc*, R. Turner, Dishforth.

JUDGE.—Mr. E. Hutton, Pudsey.

HEXHAM POULTRY SHOW.

THE poultry Show in connection with the Northumberland Agricultural Society's annual Exhibition was held at Hexham on the 10th inst. There were 113 entries, and the following are the awards made :—

DORKINGS.—1, J. White, Warlaby, Northallerton. 2, J. H. Wilson, St. Bees. *c*, H. Pickles, jun., Earby.

GAME (Any variety).—1 and 2, J. Brough, Carlisle. 3, W. Walton, Locklake, Alston. *c*, J. H. Wilson.

SPANISH.—1, J. H. Wilson. 2, W. Bearpark, Ainderby Steeple. 3, J. Elliott, Langley Hill Top.

BRAHMAS (Any colour).—1, C. Layland, Morris Brook, Warrington. 2 and 3, J. Shorthose, Newcastle-on-Tyne.

COCHIN-CHINA (Any variety).—1, J. Shorthose. 2, G. H. Proctor, Durham. 3, C. Layland. *c*, Mrs. Dees, Riverdale, Bellingham; J. Dodds, Nedderton.

HAMBURGHS (Any variety).—1, H. Pickles. 2, W. Bearpark. 3, F. E. Schofield, Morpeth.

GAME BANTAMS (Any variety).—1, J. R. Robinson, Sunderland. 2, W. E. Entwisle, Leeds. 3, J. Crosland, Wakefield. *hc*, J. R. Robinson; J. Crosland.

BANTAMS (Any variety except Game).—1, L. & R. Ashton, Roe Cross, Mottram. 2, H. Pickles, jun. 3 and *hc*, R. Youll, Sunderland. *c*, Mrs. Chester, Hexham.

POLISH.—1, H. Pickles, jun.

BARNDOOR (Any variety).—1, Rev. J. G. Milner, Leybourn.

GEESE (Any colour).—1, Miss Wilson, Woodhorn Manor, Morpeth. 2, J. Shorthose.

DUCKS.—*Aylesbury.*—1 and 2, J. Shorthose. 3, J. Coulson, Shotley Hall. *c*, Mrs. Dees. *Rouen.*—1, Miss Wilson, Morpeth. 2, Rev. J. G. Milner. 3, Mrs. B. Ord, Whitfield Hall, Haydon Bridge. *Any variety except Aylesbury or Rouen.*—1, F. E. Schofield. 2, J. Coulson. 3 and *c*, Rev. J. G. Milner. *hc*, O. Teasdale, Chapel Mew Houses, Coanwood.

TURKEYS (Any variety).—1 and 2, Miss Wilson. 3, Miss M. Lambert, Elrington Hall.

JUDGE.—Mr. R. Teebay, Fulwood, Preston.

COTTINGHAM POULTRY SHOW.

THIS Show took place on the 11th inst. The following is the list of awards :—

SPANISH.—1, G. Holmes, Driffield. 2, W. Richardson. *Chickens.*—1, G. Holmes. 2, R. Loft, Woodmansey. *Cock* (Any age).—1, J. Stable, Driffield.

DORKINGS.—1, G. Holmes. 2, — White, Driffield. *Chickens.*—1, R. Robson. 2, — White. *Cock* (Any age).—1, — White.

COCHIN-CHINA.—1, R. Richardson. 2, R. Robson. *Chickens.*—1, R. Dawson. 2, Mrs. Robson. *Cock* (Any age).—1, R. Dawson.

GAME.—*Cock.*—1, W. Boyes. 2, H. M. Julian. (Black-breasted or other Reds).—1, H. M. Julian. 2, W. Boyes. *Chickens.*—1, H. M. Julian. 2, W. Boyes. *Cock* (Any age).—1. H. M. Julian. (Any other variety).—1, H. M. Julian. 2, W. Boyes. *Chickens.*—1, H. M. Julian. 2, W. Boyes. *Cock* (Any age).—1, H. M. Julian.

POLANDS.—1 and 2, Mrs. Procter. *Chickens.*—1 and 2, Mrs. Procter. *Cock* (Any age).—1, Mrs. Procter.

HAMBURGHS (Golden-spangled).—1 and 2, G. Holmes. *Chickens.*—1, G. Holmes. *Cock* (Any age).—1, W. G. Drewery. (Silver-spangled).—1, G. Holmes. 2, R. Cook. *Chickens.*—1, G. Holmes. 2, J. Richardson. *Cock* (Any age).—1, G. Holmes. (Silver-pencilled).—1, T. Holmes. 2, G. Holmes. *Chickens.*—1, G. Holmes. *Cock* (Any age).—1, G. Holmes.

FARMYARD CROSS.—1, T. Coverdale. 2, G. Holmes. *Chickens.*—1, G. Bromby. 2, Mrs. J. Coverdale. *Cock* (Any age).—1, J. Coverdale.

SELLING CLASS.—1, R. Loft. 2, G. Loft. *Cock* (Any age).—1, G. Holmes.

ANY DISTINCT VARIETIES NOT PREVIOUSLY CLASSED.—1, G. Loft. 2, R. Loft. *Chickens.*—1, G. Loft. 2, Miss Dobree. *Cock* (Any age).—1, R. Loft.

BANTAMS (Gold).—1, — Harrison. 2, Miss Dobree. *Chickens.*—1, — Harrison. 2, J. Ringrose. *Cock* (Any age).—1, — Harrison.

GAME BANTAMS.—1, J. R. Duggleby. 2, R. Robinson. *Chickens.*—1, R. Robson. 2, — Hardy. *Cock* (Any age).—1, — Duggleby. Any other variety.—1, R. Fleming. 2, T. C. Harrison, Hull. *Chickens.*—1 and 2, T. C. Harrison. *Cock* (Any age).—1, T. C. Harrison.

GEESE.—1, O. A. Young, Driffield. 2, T. C. Harrison.

DUCKS (Any variety).—1 and 2, T. C. Harrison. Special, R. Richardson and G. Holmes.

TURKEYS.—1, O. A. Young. 2, J. Kyme.

PIGEONS.—*Croppers.*—1, H. Yardley. 2, J. Key. *Carriers.*—1, W. Camney. 2, H. Yardley. *Turbits.*—1, H. Lawson. 2, H. Yardley. *Trumpeters* —1, C. N. Lyth. 2, D. M. Collin. *Jacobins.*—1, H. Yardley. 2, R. Fleming. Judges' prize, C. N. Lyth. *Fantails.*—1 and 2, C. N. Lyth. Judges' prize, H. Taylor. *Dragoons.*—1, W. Campney. 2, C. Marwood. *Tumblers.* —1, C. N. Lyth. 2, H. Yardley. Judges' prize.—W. G. Drewery, Beverley. *Barbs.*—1, J. Key. 2, A. Waites. *Nuns* —1, F. E. Thompson. 2, J. R. Duggleby. Any other variety.—1, H. Yardley.

RABBITS.—*Lop-eared Buck.*—1, P. Ashton, Hull. 2, J. Fletcher, Hull. *Lop-eared Doe.*—1, J. R. Moore. Any variety.—1, Miss Fletcher. 2, P. Ashton.

CANARIES.—*Belgian.*—1 and 2, W. Needler. 3, W. H. H. Hutchinson. *Norwich.*—1, E. Leeman. 2, Miss Widdall. *Coppy or Turn Crown.*—1, E. Seaman. 2, G. Pexton. *Yorkshire.*—1, E. Seaman. 2, G. Pexton. *Any other variety.*—1, A. Lewis. 2, G. Pexton. *Goldfinch Mule.*—1, A. H. Easton. 2, Mrs. Garbutt. *Goldfinch Cock.*—1, J. Key. 2, — Proctor. *Nest of Four Young Canaries.*—1, Mrs. Downs. 2, W. Needler. *Any other variety of Small Birds.*—1, W. Dale. 2, H. Sage.

JUDGES.—D. Fergnson, Esq., Risby Park, and W. Boulter, Esq., Beverley.

ORMSKIRK AND SOUTHPORT POULTRY SHOW.

THIS was held on the 11th inst., in conjunction with an Agricultural and Horticultural Show. The entries of poultry and Pigeons amounted to 204. It is not too much to say that seldom has there been a better collection. Some of the *Dorkings* could scarcely be surpassed in any part of England, and the whole class, adults and chickens, may be set down as very good. As regards *Cochin-China* fowls there was the best show we have seen for some time. The *Brahma Pootras*, though there were not many of them, deserved great praise. Of *Spanish* the adults were first-class, and the chickens were of such excellent quality that the Judges must have had great difficulty in deciding; nearly all the birds were highly commended. There were only few entries of *Game* fowls, and these were not very good. It would seem that this class of birds is not bred with the same care as it was formerly. The competition was close for the best Golden-spangled *Hamburghs*, which were very good. The Silver-spangled were still better, and deserve the highest commendation. There were exhibited in these classes some of the choicest birds in England, Mr. Beldon, from Bingley, being very successful. The *Ducks* were excellent, particularly some Aylesbury Ducks from that place. The *Geese* were good, and the *Turkeys*, especially one splendid pen from Rochdale, were much admired. The entries of *Pigeons* were not very numerous, but those exhibited were choice birds.

DORKINGS.—*White.*—1, J. Robinson, Garstang. 2, Mary Fairhurst, Woodlands, Ormskirk. *Chickens.*—1, J. Robinson. 2, Mary Fairhurst. *Coloured.*—1, J. Robinson. 2, Admiral Hornby. *hc*, Admiral Hornby; T. Hornsby, Lathom; Lady Scarisbrick. *Chickens.*—1, Admiral Hornby. 2, T. Briden, Earby. *hc*, T. Briden, Earby; E. Shaw, Oswestry; J. Robinson.

COCHIN-CHINA.—*Buff.*—1 and 2, W. A. Taylor, Manchester. *hc*, C, Sedgwick. *Chickens.*—1, W. A. Taylor. 2, A. Bamford, Middleton. *hc*, W. A. Taylor; T. Stretch. *c*, T. Stretch.

PARTRIDGE OR GROUSE.—1, T. Stretch. 2, W. Gamon, Chester. *hc*, T. Stretch; W. A. Taylor. *Chickens.*—1, C. Sedgwick. 2, T. Stretch. *hc*, T. Stretch; W. Taylor.

BRAHMA POOTRA.—1, J. H. Pickles, Birkdale. 2, E. Leech. *hc*, W. Gamon; C. Leyland, Warrington. *Chickens.*—1, C. Leyland. 2, E. Leech. *hc*, W. Gamon.

SPANISH.—1, H. Beldon, Bingley. 2, F. & C. Haworth, Newfield. *hc*, E. Brown, Sheffield. *Chickens.*—1, F. & C. Haworth. 2, T. Comber. *hc*, F. and C. Haworth; T. Comber; E. Brown; H. Beldon.

GAME.—1 and 2, T. O'Grady. *Chickens.*—1, J. Sumner, Upholland. 2, J. Eaves.

HAMBURGHS.—*Golden-spangled.*—1, H. Beldon. 2, S. & R. Ashton, Mottram. *hc*, N. Marlor. *c*, J. Robinson. *Silver-spangled.*—1, H. Beldon. 2, Ashton & Booth, Mottram. *hc*, W. A. Taylor. *Golden-pencilled.* —1, H. Beldon. 2, W. Parr, Patricroft. *hc*, J. Robinson. *Silver-pencilled.* —1, H. Beldon. 2, J. Robinson.

BANTAMS (Any variety).—1, H. Beldon. 2, T. W. Morris, Rochdale. *hc*, W. A. Taylor; S. & R. Ashton.

DISTINCT VARIETY.—1, H. Beldon. 2, N. Marlor.

GAME COCK (Any variety).—1 and 2, T. Statter, New Brighton.

GAME BANTAM COCK (Any variety.—1, T. Comber. 2 and *hc*, J. Sumner.

DUCKS.—*Aylesbury.*—1 and 2, Mary Seamons, Hartwell *hc*, E. Leech, Rochdale. *Rouen.*—1, W. Gaymen, Chester. 2, E. Leech. *hc*, R. Gladstone, jun., Courthey.

GEESE (Any variety).—1, J. Bryers, Ormskirk. 2, E. Leech. *hc*, S. H. Stott, Rochdale; Mary Seamons; Admiral Hornby; J. Bryers.

TURKEYS (Any variety).—1, E. Leech. 2, J. Bryers.

EXTRA STOCK.—*hc*, R. Parr, Aughton (Goslings).

PIGEONS.—*Carriers* (Black).—1, H. Yardley, Birmingham. *hc*, Countess of Derby, Knowsley. *Any variety.*—1, H. Yardley. *Pouters.*—1, W. Gamon. *Jacobins.*—1, H. Yardley, Birmingham. *Barbs* —1, J. Fielding, jun., Rochdale. *hc*, H. Yardley. *Tumblers* —1, J. Fielding, jun. *Distinct variety.*—1, J. Fielding, jun. 2, J. Phillips, Liverpool. *hc*, Countess of Derby.

JUDGES.—Mr. Joseph Hindson, Everton, Liverpool, and Mr. Richard Teebay, Fulwood, Preston.—(*Ormskirk Advertiser*).

CONVULSIONS IN YOUNG RABBITS.

I HAVE kept tame Rabbits for some time, and have found in almost all cases that the young ones die when about six weeks old. The Rabbits seem quite right one hour, and the next hour they are struggling and rolling over and over until they die. They do not sometimes die for hours. I should be glad if you would give an opinion as to the cause of death, and the remedy. The Rabbits do not die from too much green meat, for they have little or none. The food they have is carrots and carrot tops, bran, meal, &c. They are kept in a very large wire run, open

at the top. The young ones die almost as soon as they leave the old one.—E. G. D.

[Young Rabbits when eight weeks old pass through a kind of moult, and to them it is the most critical time of their lives. They should be left with the doe until that event is over—say nine or ten weeks, then remove all but one of the smaller ones to dry up the milk of the doe, and feed the removed ones upon bread and milk, with crushed oats as a dry food. A little malt culms mixed with the oats will be beneficial. A few common peas soaked for twelve hours are good—say twice a-week. All green food should be given dry, as the damp gives the Rabbits the "rot." The hutches should be 2 feet from the ground, dry and warm, and closed at night, to protect the Rabbits from the damp air. Clean the hutch well with a brush and a solution of disinfecting powder, then sprinkle with sawdust and ashes mixed. Oat straw and old hay may be given freely, but new hay is not good, as the Rabbits become swollen after eating it. I have cured old Rabbits of these convulsions by giving half a grain of camphor crushed in a teaspoonful of warm water. As a rule, most diseases may be prevented by the feeding and care bestowed.—C. Rayson.]

LIGURIANS IN JERSEY.

Perhaps the doings of my Ligurians in this island may interest some of your readers. Last year I purchased of Messrs. Neighbour a black stock with an Alpine queen at the head, this I brought over safely in June, the bees suffering but little from their confinement for two days. Thus far I was successful, but owing to the long drought they made very little honey after their arrival, for they consumed about 11 lbs. of sugar during the winter, but by careful feeding they survived, and in May threw off a very heavy swarm, which chose a flat wall covered by a peach tree for its resting place. As many of the bees got behind the branches it was a very difficult matter to dislodge them; however, they were safely housed in one of Neighbour's improved cottage hives. The stock hive threw off a second and third swarm, which were united and sold. In due time Neighbour's hive was supered, and after some hesitation the bees began to work; but my hopes of a good super were soon disappointed, for they ceased to work, and on July 9th threw off a virgin swarm, weighing 5 lbs. As the hive was still strong with bees it seemed better not to return it, so I hived it in an old straw hive *pro tem.*

I did not succeed in obtaining another hive for five days, but having secured one, I transferred the bees; but the Woodbury did not suit their taste, for next day they decamped and settled in a neighbour's garden. Having hived them again, I fixed the comb they had previously constructed into the Woodbury frames, and in the evening put them in again, but next day they decamped again. This time I put them into an improved cottage hive, but this did not suit them, for they decamped out of that and went off to a deserted hive some 300 yards away. In the evening I lifted it from the "stance" to bring it away, and it then became evident that the wax moth was in it, so I determined to rout them out of it. Accordingly, in conjunction with another apiarian (one who can claim the honour of having first introduced the Ligurians here), we took possession of the queen; we then caged her on the top of the Woodbury, so that she could communicate with her subjects. This was done about noon, so by evening they had quite settled down, as I thought; but next day they made two attempts to decamp, but finding the queen was not with them they soon returned, and making a virtue of necessity they set to work, so forty-eight hours after their last attempt to decamp I let the queen loose. A second swarm followed this most refractory one, but was returned to the parent hive. The queen which headed the second swarm was quite dark-coloured, whilst the mother is a beautifully-marked Ligurian, and breeds pure Ligurians. Is this usual?—Cantan.

DRIVING BEES.

Mr. Francis Chapman wishes to know, were he to drive bees into empty hives during the present month, if they would live through the winter—that is, of course if they were fed; also the best mode of feeding them. The people in his neighbourhood give common brown sugar, and say the bees are fond of eating little birds, such as sparrows, &c.

[You should drive the inhabitants of two or three hives into one, and then feed them with simple syrup made of lump sugar in the proportion of three parts sugar to two of water (by weight), by means of an inverted pickle-bottle which must be filled every evening, until they attain a nett weight of at least 18 lbs. You may in this way form stocks from condemned bees which will probably survive the winter; but you would do much better to utilise the refuse pieces of worker combs, as well as the bees, by means of frame hives, in the manner detailed by Mr. Woodbury in Nos. 356, 357, 358, and 369 of our New Series. Brown sugar is inferior to lump sugar as food for bees, and the idea of their being carnivorous has been completely disproved.]

LIGURIAN BEES.

I possess three hives of Ligurians, one of which has, however, unfortunately, become hybridised. The original Ligurian queen is still alive, but as she is at the head of a swarm which came off lately, and one which has given me much trouble to settle, I am afraid to disturb the bees by taking her away; moreover, it is too late in the season to deprive a hive of its queen. The hybridised stock is in a Woodbury hive, so there would be but little difficulty in introducing a pure queen if I could procure one. If the hybridised stock be left alone, I am afraid of the hybridised drones next year uniting with the pure queens from my other stocks.—Cantan.

[If the hybridised queen be, as we imagine, pure-bred, she will breed pure drones in spite of the cross. Mr. Woodbury, of Mount Radford, Exeter, will, upon application being made to him, put you in the way of obtaining pure Italian queens at a cheap rate in the autumn.]

OUR LETTER BOX.

Nettles and Young Turkeys (*E. R. P.*).—We do not believe stinging nettles are injurious to any kind of poultry; we encourage them as shelter for our chickens, and they live among them. In many parts they give nettles chopped up and mixed with meal, which is an excellent food.

Black Hamburghs (*Black Hamburgh*).—We consider the birds pure. We can only add, we advise you to breed from the faultless birds only. There is, says an old proverb, "a skeleton in every house," and those who know the secrets can tell you if they will, that the uniformity of a yard is seldom or never attained without persevering slaughter of the offenders in colour.

Double Feather in Fantail's Tail (*Frank Dixon*).—A double feather is not uncommon in the centre of the tail of a Fantail Pigeon. We have seen several, and bred one so ornamented last season. This double feather is less common in other Pigeons; but we have seen a Pouter cock with one. It is no recommendation, though not a disqualification in a prize list.

Castle Eden Poultry Show (*W. J. Wilton*).—It often happens that awards have to be corrected, and that prize cards are wrongly affixed. You had better write to the Judge. Our report was sent in manuscript by a private correspondent.

Silkworms (*A Seamstress*).—Unless you have a good quantity of silk reeled as required in commerce, it is useless to try to sell it; but if you have cocoons unreeled I will bid you a price for them if of good quality.—Leonard Harman, jun., *Old Catton, Norwich.*

Dividing a Stock (*A Tyro*).—There are not two queens; and if you attempt to make two stocks out of one in the manner proposed you will certainly be disappointed.

Weight of Comb (*R. A.*).—A square foot of new and clean worker comb of medium thickness weighs when empty about 3¼ ozs. The quantity of actual wax in a comb does not increase with age. The yellow dust which falls from your combs consists of Acari or mites, which prey on the pollen which they contain. We have often used comb infested with these mites, and never found them produce any injurious effects. We should not, therefore, be afraid to stock the hive with driven bees.

Bees not Using Supers (*Filburston*).—We cannot tell why your bees refused to work in the supers, unless you put them on too late, or possibly did not wrap up the glasses sufficiently to keep them warm. At any rate it is now quite too late to expect them to be occupied. We find that there is still a good deal of brood in our hives, and we presume also in yours, which it seems a great pity to destroy; on the other hand, we have little doubt that the store of honey is rapidly diminishing. There will be less risk of a quarrel if you drive the inhabitants of both hives one after the other into an empty one, and then induct the whole into the hive which they are permanently to occupy.

POULTRY MARKET.—August 18.

We are falling into the sere and yellow leaf of autumn, and the trade is becoming nominal, while the supply increases. We shall have sorry returns for some time to come.

	s. d	s. d		s. d	s. d
Large Fowls	3 0 to 3 6		Geese	6 0 to 6 6	
Smaller do.	2 0	2 6	Pigeons	0 8	0 9
Chickens	1 6	1 9	Guinea Fowls	0 0	0 0
Goslings	0 0	0 0	Hares	0 0	0 0
Ducks	2 0	2 6	Rabbits	1 4	1 5
Grouse	0 0	0 0	Wild do.	0 8	0 9

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUG. 26—SEPT. 1, 1869.	Average Temperature near London.			Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. a.	
26	Th	Reading Horticultural Show.	72.7	48.2	60.5	14	3 af 5	59 af 6	57 af 8	11 af 9	19	1 34	238
27	F	Leeds Horticultural Show opens.	73 3	49.2	61.3	12	5 5	57 6	13 9	15 10	20	1 17	239
28	S		72.8	49.7	61.3	19	7 5	55 6	43 9	20 11	21	1 0	240
29	Sun	14 Sunday after Trinity.	71.3	47.6	59.4	16	8 5	53 6	9 10	after.	22	0 42	241
30	M		74.5	48.1	61.3	11	10 5	51 6	42 10	32 1	☾	0 24	242
31	Tu	Banbury Horticultural Show.	74.1	47.5	60.8	17	12 5	48 6	24 11	36 2	24	after.	243
1	W	Partridge Shooting begins.	70.9	47.6	59.3	21	13 5	46 6	morn.	38 3	25	0 13	244

From observations taken near London during the last forty-two years, the average day temperature of the week is 72.8°; and its night temperature 48.3°. The greatest heat was 85°, on the 1st, 1843; and the lowest cold 31°, on the 25th, 1851. The greatest fall of rain was 1.50 inch.

A SECOND VISIT TO THE SEEND ROSERY.

ANCIENT readers of "our Journal," so ancient as to have read the number for August 21, 1866, will perhaps remember that I had then recently paid a visit to Mr. Ambrose Awdry's Rosery at Seend, Wilts. I say ancient readers, for three years since seems in this very varying, rapidly-changing age of ours quite a long space of time. I give three years as the period a man may be remembered; if he is recollected longer, rely upon it he must have done something very good, or very bad, he must at least have built a church or—burnt one down.

That visit of mine to Seend in the summer of 1866 was a visit made in company with many; there were forty of us, but this time it was a party of four. And this brings me to remark upon the proportion of happiness to be had in large parties or small. There was something in Thackeray's advice as to social pleasure when he said, "If you wish to enjoy yourself, never go beyond the leg of mutton," which said muttony leg he meant to represent—to symbolise, a small entertainment. But I, for my part, would lay down no rigid rule. Does it not come to this—in a large party the pleasure is diffused, in a small one it is condensed? Then the pleasure is diverse; among a large number my happiness is partly in looking on at the happiness of others, in hearing the light laughter, in seeing the bright smiles. In a party of forty there are sure to be young people, and they are sure to be light-hearted, and light-heartedness is pleasant to look at, and is catching too. Young people make us feel young again, and how beautiful is mere youth! it is the very bloom on the Plum, soon to be rubbed off by the world's wear; but—— no more of this. In a small party of like minds and like tastes there will be at any rate more close talk, more of head to head, and of heart to heart. The last time I was at Seend there were many ladies tripping from Rose to Rose; this time no ladies, but four, and with our host five, male rosarians. As we by chance met in the same railway carriage, I could see there was written upon the face of each, "I mean to be happy to-day." Then the day was just the thing, neither frying to Rose and rosarian, nor showery, but just a little air going, and alternate gleam and cloud. All five were rosarians, four up to boiling-point and the fifth just simmering.

But here is Seend Station; a climb up the hill follows, and then "The Bell," a really old-fashioned, neat, and very clean village inn, with a twistabout staircase, and tidy little rooms around. I almost expected to find old Izaak Walton with his fishing-rods in the corner of the room, he over a frugal lunch deep in talk with "Venator and Piscator" about "a fine fresh May morning," and the singing birds, "those little nimble musicians of the air that warble forth their curious ditties with which nature hath furnished them to the shame of art." And the meal over, I expected to hear old Izaak say, "And now, scholar, I think it will be time to repair our angle rods." At any rate, had I slept at "The Bell," I have no doubt I should have found, as Izaak did at his inn, that "the sheets smelt of Lavender." But a truce to fancy; there, in the village inn's best room, was our luncheon; and the better to enjoy a long visit to the Roses, we lunched well—a good plan, gentle reader, for we are in the body yet. We ate Strawberries so good this bad season, that I was inclined to say with Dr. Boteler, "Doubtless God could have made a better berry, but doubtless God never did."

Lunch over, then away down the village street to Mr. Awdry's fruit garden, where old George, the gardener, awaited us. Old George, his master's right-hand—I must put him in print—there he is before me, a 6-foot man, white-hatted and white-headed, with a decided military look and bearing, which stooping all his life to cultivate mother earth had not altered. Well done, old George! Here we find an orchard house in full swing, Grapes and wall fruit looking equally well; then we spied over and walked through a plot of pyramid Pears in perfect health, Crasannes, Beurré d'Amanlis, Williams's Bon Chrétien, &c., all bearing abundantly. Coming to the Strawberries within this walled garden old George confided to me that he found that Dr. Hogg did not do on a hill, but that he does admirably in a valley; perhaps that is because the real Doctor, our Doctor, lives and does well in the valley of Pimlico!

Marking the exceeding fruitfulness of everything save Strawberries, we pass on to reach, *viâ* the pretty old church, the Rosery. How beautiful is the view of the rich valley, and beyond, our Wiltshire Downs! When I looked on that valley I thought of what Charles V. said of the city of Florence, "It was too pleasant to be looked on, but only on holidays." The striking feature of Mr. Awdry's Rosery is its being among green fields; itself, until a few years since, one of them. And in England, as we have so much green, a large Rose garden is very telling in a green setting. Entering I find as before a silver frame to the Rose picture in the shape of a fence lined with Félicité Perpétuée, now in all its blooming glory. Since my last visit Mr. Awdry had entirely given up standards; every Rose is now dwarf, and worked on the Manetti. This lowering of the flowers gave a still greater resemblance to a carpet, with its bright squares divided by green lines—viz., grass paths. We passed on with the master, who was as proud and happy as a mother showing her nursery darlings, and as to old George of the white hat, he seemed like head nurse; but which was happier, or prouder of the Rosery, master or man, I scarcely know, but certainly old George was as happy as if every Rose was his own. The bushes (we may talk again of Rose bushes now that they are budded below the soil), are in rows, and in each row six together of the same colour, and many sixes make up a whole row. The size of the Rosery and the size of the blooms both struck me. There was Pierre Notting in its dark glory, Mr. Awdry's and old George's special favourite, the latter remarking, "It does smell *so* sweet." There were Céline Forestier grown larger than usual, and Charles Lefebvre, Senateur Vaisse, and Comtesse Cécile de Chabrillant, numerous, and holding their proper place—namely, the first; John Hopper strong and good; while

Jules Margottin was, as usual, always good—if I could only have one Rose, let it be Jules, wood, leaf, flower so vigorous—Madame Vidot, best of light Hybrid Perpetuals; and William Griffiths, the firmest and living longest as a cut flower. But who can sufficiently praise Louis XIV., Lord Macaulay, Prince Camille de Rohan, and dozens of others? Only one first-class Rose I was unable to find, and that was Alfred Colomb. There are also two Roses not first-class, and yet I hold they catch the eye more than any others; these are Eugène Appert and Empereur de Maroc. What a pity it is that they are not so perfect as Charles Lefebvre.

In this Rosery Strawberries are grown along the sides of the paths; although this has been in North Wilts a bad season, yet those at Seend were the best I had tasted. Sir Harry was good, but Dr. Hogg was better. Here were we five cutting buds, eating Strawberries, chatting, laughing, talking Rose talk; indeed, inclined to take a rosy view of things in general. Some of us were representative men; our host represented one of our oldest and most numerous Wilts families, he its head; then another was an Anglo-Indian, a third an Anglo-Frenchman, and I represented, however humbly, "our Journal." The ground of the Rosery slopes gently to the south, and a summer-house is at its upper end. Hither retiring to sort my buds, I could also view in its completeness this charming Rose garden, the white border, the pillars and arches along and across the paths, the Rose squares within them, and the rich-coloured loam the ground colour. Then bear in mind the scenery beyond and the dry bracing North Wilts air. One circumstance makes ours a prettier part of England than some others, for almost all the land is pasture, ours being a dairy country.

Satisfied but not satiated, we next bent our steps to the old church. Wonderful is the attractive power over all travellers of these old churches, scattered like earthly stars all over England. The builder of Seend church was a clothier, as two pair of shears cut in the arch of one of its windows reveal to us. A wealthy liberal clothier built the sacred fane, bringing to mind the grand days of West of England cloth manufacture, before the north with its coal, and, mayhap, its greater energy beat us. But although the cloth trade of Wiltshire is not what it once was, yet the county owes much to it, as said an old Wiltshire man, the owner of thousands of its broad acres, "Wiltshire aristocracy is made from cloth." What a pity that trade and landowning are ever thought antagonistic, for each helps the other. Peeping about church and churchyard, we find our good host's family burying place, which, engirdled by an iron railing, he, like a good rosarian, has planted with the choicest and most frequent-blooming Roses, and there I saw Alfred Colomb in all his glory. A nice thought was this, giving the fairest flowers to those best loved.

Back to "The Bell," for dinner, where pleasant chat made the time seem too short, and that last train (Why was it not late as well as last?) will soon, our watches tell us, come groaning and panting to the station.

Thus passed a happy day, and which visit did I enjoy most? Well, comparisons are odious, but I must say, if I want to enjoy Roses, the best plan is to go with but few friends, and those gentlemen, for *two* kinds of flowers are apt to confuse the mind. These thoughts strike me, how every true lover of floriculture increases not only his own happiness, but that of his friends, and what a pure happiness flowers give to those who love them. Here was my host made happy through much of the year by his Roses, and adding to the happiness of others by opening his rosery to them. One sad thought only during this day that did one good, crossed my mind—it will be my last visit to the Seend Rosery, for part of the Roses will be removed to Bath, the rest sold, and the green turf will again, as it had done for centuries, reign where for a few years the queen of flowers has reigned supreme. But who will not wish Mr. Awdry may have as much happiness with his Roses in Bath, as he has had with his Roses in Seend?—Wiltshire Rector.

THE EARLY ROSE POTATO.

Having purchased a pound of the above Potatoes from Messrs. James Carter & Co. I set them in March in the following manner:—I cut them into sixty-five pieces, getting an eye to almost every set; I believe every one of them germinated. I placed them in a row covered with about 2 inches of soil; when the tops were about 6 inches high I drew about two more inches of soil over the root. The soil is of a light sandy character. Thinking they were a first early Potato I cooked 2 lbs. in the middle of June; they were sad, very white, and sweet. I took up the remainder of the crop on the 16th of August, and have carefully weighed them. The 1 lb. of seed has produced 44 lbs., and I believe that had the whole of the sets been in equally favourable positions, I should have had 60 lbs. at least. I may say that in size and shape, the sets were something like a Filbert. One of these sets produced five Potatoes weighing 1¾ lbs. There are at least twenty that weigh half a pound each. I cooked some more yesterday (August 17th), and found them splendid. I never tasted anything to equal them.—A Subscriber, *Nottingham*.

NOTES OF NORTHERN PRODUCTIONS.

I perceive it would never do for Mr. Bréhaut and myself to have a Peach house in common, for we should both be wanting to eat the same fruit. I quite agree with him that Early Rivers is by far the best early Peach we have. It ripened with me in the middle of July in a perfectly cool house with an open door and open ventilators within 6 feet of it. A tree in the heated house ripened on the 10th of June.

In this house I can add from 30° to 40° to the external temperature, but in practice I use just enough to keep frost out at night, and with sunshine to allow 80°. My house is divided into three compartments, respectively of 40 feet, 30 feet, and 50 feet in length; the first is heated both above and below the surface, the middle only below, and the west end is unheated, though it has the pipes laid for use if wanted. The form of the house is a lean-to with a hip-roof, having 7-feet and 14-feet rafters, and the pitch such as to have the midday sun perpendicular to the glass on the 15th of April. The back wall is covered with Peach trees *en cordon oblique*; all the rest of the trees are in pots, and stand on the slate bed beneath which the hot-water pipes run. The potted trees were packed closely in the cold end, and kept dry till the middle of January; the ventilators, which are very large, being for the most part always open, those at the top invariably so. The early Peaches were showing blossom early in January, and I feared I should be obliged to light the fire sooner than I wished; however, the trees were not moved into the other compartments till the middle of the month, the earliest sorts going to the warm end. The bottom heat was allowed to work for ten days, with abundant ventilation, before any surface heat was given; by that time the blossom was well out; and here I may remark, that both this year and last Early Beatrice was a fortnight later in opening its flowers than any other tree in the house. In the middle compartment bottom heat alone was given, and the cold end was still very crowded with potted trees, but kept as cool as possible. All the trees set most abundantly, but as there were no insects about I used a brush to fertilise, and, perhaps, the quantity of pollen in the brush, which I kept dry, may have made up for the cloudiness of the season; but on this point I have my doubts, because the few trees I have outside on the walls have very fair crops, and I left them entirely to nature. Apricots outside failed completely, but then we had frost every night in June, and often it was severe, so severe as to take the leaves off the Apple trees, and to these June frosts I attribute the failure of the Apricot crop.

To return to the Peaches. The earliest to ripen were Early Beatrice and Early Louise simultaneously on the 3rd of June; of the two, Early Louise is the larger, and for in-door work is, no doubt, the better; but that remarkable property of late blossoming seems to mark Early Beatrice as the sort for us northerns out of doors; at any rate I have worked some for the purpose of putting into my neighbours' gardens, and by this time next year I hope we shall know how far it will answer. The next after these two very early Peaches was Early Rivers, on June 16th; then Early Silver, Hales' Early, followed closely by Early York, Rivers' Early York, and Early Crawford. Of these Hales' Early is a very large handsome Peach with little flavour; Early Silver and Rivers's Early York very fine. Early Alfred and Early Albert came next, and then Early Grosse Mignonne and the ordinary varieties.

The warm compartment had fresh trees brought into it to take the place of those whose crops were gathered, and it has now (August 17th), a few trees, mostly Nectarines, of its third set ripening fruit. By this method of shifting the potted trees, it is quite amazing to see the quantity of fruit a small house can be made to produce. The trees are hardened-off and plunged in a warm piece of ground, and as they have plenty

of space given them outside, the ground they cover is very considerable, and they look as if it were impossible for them to have occupied so small a space in winter.

The enormous Susquehanna Peach of last year might have been the result of allowing a vigorous young tree to throw all its strength into two Peaches, so this year I left a numerous crop on, and therefore a very heavy one, for the Peaches are again very large, though of course not so large as those of last year. I have just weighed and measured two that were allowed to hang from the same eye, one weighs 9 ozs., the other 8 ozs., and the girth of the larger is nearly 11 inches. These are just about the usual size of the rest of the crop. This Peach is a very good one of the yellow-fleshed class, quite as good but much larger than Exquisite, which has always stood alongside of it.

Another magnificent Peach is Mr. Rivers's Nectarine Peach, the average weight being more than 8 ozs., and the flavour peculiar and exquisite. Princess of Wales is nearly ripe, and is again of the large size of last year. As this is a very high-flavoured Peach it ought to be in every collection. Lord Palmerston and Lady Palmerston are far from ripe, and have been in the middle compartment since January. They are already very large, and in due course I hope to be able to report further upon their qualities.

Before ending I have a few words to say about the Nectarines. Rivers's Stanwick Elruge was the first to ripen, and is very fine. The medium-sized Pine Apple is far superior to its ancestor Pitmaston both in size and quality. Albert Victor is new in texture and flavour, being a melting Nectarine—so much so, that two ladies yesterday thought they were eating a Peach, and one of them is no novice in Peach-eating. Victoria is always good and a most abundant bearer, and I may add a most useful one to have in a house, from the enormous quantity of pollen it produces. Albert (or No. 8) is a very grand one, weighing 6 ozs., and exactly like the Stanwick in flavour; like it, too, it is apt to crack. Prince of Wales Nectarine I do not think worth its room, though very beautiful to look at.

Such is my experience of the season so far as these new varieties are concerned; and I should advise all Peach-growers to have Early Louise, Early Rivers, Early Silver, Rivers's Early York, Early Alfred, Nectarine Peach, and Princess of Wales. These give a succession and a wonderful variety of flavour. I see I have forgotten to mention Alexandra Noblesse. It is just like the old Noblesse in flavour, but larger and more vigorous, and from having glands it is not liable to mildew like the old variety. It must also go into the above list; and when Grosse Mignonne is added to it, along with the late varieties Lord and Lady Palmerston, I do not know that any others need be added, unless it be one which I had from Mr. Rivers under the name of Malta, but which turned out very superior to that variety.

We have had a most inclement season in our district; cold, parching, easterly winds all through June and for a great part of July blighted all the trees. Strawberries, which usually grow very large here, were misshapen, and for us a bad crop.

I am glad to see attention drawn to that most admirable variety of Strawberry Vicomtesse Héricart de Thury; it fully deserves all the praise given to it. It is not the same as Prince Imperial, and as I have that variety from Sawbridgeworth I take it for granted the difference is in the varieties, and that they ought not to be considered synonymous. Dr. Hogg was one of the few that defied the weather, and I think it the best dessert fruit grown. Rivers's Eliza also did very well and grew to a large size. Frogmore Late Pine failed completely. Sir Charles Napier surprised me by being as good as ever.—W. Kingsley.

PELARGONIUM BAYARD.

Your correspondent "Sans peur," at page 117, speaks of the above bedding Pelargonium in laudatory terms. As I have grown it for two seasons both as a pot plant and in a mass in a bed, I seek to express my opinion respecting its merits. I unhesitatingly pronounce it the best Pelargonium at present in commerce, and in my judgment of it I am supported by many eminent horticulturists. I have a bed of it in a small geometric flower garden adjoining my own cottage, and from the time of planting until now it has been the object of general admiration. Bayard is one of the best varieties of Mr. Pearson's raising sent out last year; but in his trial grounds, about two months ago, I saw several others which then promised to eclipse Bayard, notwithstanding its "brilliant beauty." The most conspicuous were William Thomson and Douglas Pearson; the former does honour to the name it bears.—Quintin Read, *Pleasley Vale Gardens, Mansfield.*

RUST ON GRAPES.

I lately saw a curious instance of rusted Grapes, one or two facts in connection with which are worthy of note. The vinery in which these Grapes are growing is a small lean-to, ventilated by means of sliding sashes in front, and on the upper half of the roof by moveable lights, which slide down and are pulled up by ropes. The house contains two Vines managed on the extension system; one is a Black Hamburgh and the other a Black Prince. Both are carrying a heavy crop, both are alike vigorous, and here the similarity ceases; for with but one slight exception the foliage and fruit of the Black Prince are perfectly healthy and free from any disease, while the Black Hamburgh is diseased both in fruit and foliage. The backs or under sides of all the leaves developed in the earlier stages of its growth are covered with warts, and almost the whole of the fruit is regularly encrusted with rust, and yet although so severely affected, the fruit has continued to swell; but so unsightly is the effect produced by the rust that hardly a bunch will be fit to send to table. The foliage of the sub-laterals is perfectly healthy, so that it is quite evident the diseased foliage does not arise from any debility of the Vine, but from external causes. The disease of the foliage is doubtless caused by its being subjected to the action of a close warm temperature saturated with moisture, and that of the fruit in this case by a sudden change in the temperature of the house during setting, in consequence of which the cuticle (peculiarly sensitive at that period of its growth) became affected, and the rust has gradually spread till it has almost covered the entire surface of the berries. Slight traces of rust visible on a few berries of Black Prince at the top of the house, right under the part at which the cold air must have entered, tend to lead one to the above conclusion, as with this slight exception the Black Prince Vine is entirely free from disease; its tougher cuticle and more hardy constitution apparently enabling it to withstand the effects of a treatment which has proved so fatal to the crop of its more delicate neighbour.—Edward Luckhurst, *Egerton House Gardens, Kent.*

YUCCAS, AND THEIR FLOWERING.

Amongst the results of the dry summer of 1868 the extraordinary blooming of trees this season is not the least remarkable. The Paulownia imperialis bloomed where it had never bloomed before; Edwardsia microphylla and other greenhouse plants which had withstood the winter, also flowered out of doors; while the flowering of the Elms and other trees showed the effects of the hot, dry autumn. To a like cause I attribute the unusual number of blooms we have at the present time (the end of July) upon our Yuccas. The tendency of this plant to push up its flower-spikes at all seasons, often leads to the destruction of its blooms when they appear late in autumn. It often happens, after a fine summer, that a great number are sacrificed in this way, and many were so destroyed last winter; but it would appear that others were not so matured in the bud as to expand in the autumn, and have done so now. The exceeding beauty of these excites the admiration of everyone; no flower spike of any other plant that I am acquainted with can at all compare with that of the Yucca in elegance of shape and density of bloom, and a full-grown spike is a load for anyone. Besides, the plant presents a tropical aspect, when thriving has a sturdy appearance peculiar to itself, and when a number of plants are in flower at one time the effect is very striking. We have now upwards of fifty of the larger species in bloom, varying in height from 5 feet to nearly 11 feet, most of them being about 7 feet high, and more than half this height consists of bloom. The species or varieties seem to run into each other so imperceptibly that it is difficult, in fact almost impossible, to distinguish between them, more especially as two portions of the same plant often present different features. However, as the specific names, gloriosa, recurva, aloifolia, acuminata, and some others, are used, it is well to retain them. Y. filamentosa is of humbler growth, and flowers more freely than the abovenamed, but it is no hardier. The variegated forms of Yucca are not yet sufficiently plentiful to be much used out of doors, excepting in some particular spot, and where, probably, their flowers are not desired.

The soil suited to the Yucca has been variously described, some considering lime and other calcareous matters injurious,

but here it would be difficult to find a place where these substances naturally exist in greater abundance than the border where the Yuccas are growing. The substratum is an open stone shatter, which can be penetrated by the roots of trees, and is much liked by them, and, no doubt, by those of the Yuccas as well. These, with Irises and some other plants, occupy a border by the side of a terrace wall, fully exposed to the south, and sheltered on all the other sides. Many of the Yuccas are of great age, and have occupied their present site many years; but those who plant Yuccas for effect must not expect them to bloom like Pelargoniums, immediately after planting; however, when the situation and season are favourable, they will be rewarded by spikes of bloom sooner than they expect.—J. Ronson.

CAMPANULA PYRAMIDALIS CULTURE.

This fine old plant seems for many years to have been under a cloud, so seldom has it been seen in fashionable quarters; but as it has claims which will not be set aside, it is almost certain that it will soon come up again with almost the freshness of a novelty, and gardeners may successively find out that two or three plants tenfold more worthless might with advantage be transferred from the greenhouse to the rubbish heap, to make room for the steeple Bellflower of olden times.

Although it has been treated with coldness by many of those who ought to have known better, it has been all along a favourite window plant with amateur cultivators, and I can say without fear of contradiction, that no other plant grown combines in itself so many of the qualities essential to plants suitable for window decoration. In the first place it is strikingly handsome; it is no minute beauty which we must bend over, and after due examination pronounce pretty, but it levies the tribute of admiration at first sight from all who see it. It is not, in general, thought "the correct thing" to stare in at people's windows; but when they contain one or more of these blue pyramids, 8 or 9 feet high, there is no help for it. It is also easy of cultivation, not subject to the attacks of vermin, and, which is a great desideratum in window plants, it does not obstruct much light. As an example of what can be done with it as such, I was taken a few days ago to see two plants grown, and at present flowering in the windows of a large public school. They had been in flower for nearly two months, and seemed likely to continue so for a month longer. One of them was 8½, the other 9 feet in height, and their cultivator, on my remarking that they were only in 8-inch pots, informed me that in general he found every inch in the diameter of the pot counted a foot in the height of the flower spike; thus, if the last shift was into 6, 8, or 10-inch pots, the plants would throw up stems 6, 8, or 10 feet high.

The reason why this Campanula is so seldom grown, will most likely be found in the fact that, as things go, it is rather a slow subject. In these days, when Vines have to carry heavy crops at eighteen months old, and when the old saying, that "He who plants Pears plants for his heirs," has become absolute nonsense, it seems folly to expect that any considerable number of people could be found who would patiently wait nearly three years for a spike of Blue-bells, however grand; but if we begin at the beginning, and raise our own plants, we must do so.

Campanula pyramidalis is generally propagated either by seed—and seedlings make the best plants—or by division of the old plants after flowering. The seeds should be sown in heat about the middle of March in light sandy soil, and merely covered with a dusting of fine peat and silver sand. When large enough to be handled, prick out the seedlings singly in small pots, and continue them in heat until the pots are filled with roots; afterwards place the plants in a cold frame or pit, giving small shifts when necessary, the last for the season taking place not later than the beginning of August. For this use a rich but porous compost, and take care to insure perfect drainage. During winter the plants should be kept rather dry, in any place where damp rather than frost can be guarded against, and for that purpose the sill of a large, light window is all that can be desired. Receiving the same treatment during the second summer, with the addition of frequent manure waterings, next August should find them in 8 or 10-inch pots, leaving room for one more shift in spring, just before the flower stems begin to rise. After the roots have penetrated this, and all the time the plants are in flower, continue to give rather weak guano or other manure water every second day, and soon the great blue Gothic spires, which more than sufficiently repay all these little attentions, will be worth looking at.

After the flowers are past, cut the stems over, and in the following spring, when growth has begun, divide the old stools into as many plants as there are growing points. Treated the same as seedlings, these will flower in the second season, but I have always found plants from seed the freest-growing.

Of course plants are to be bought if we know where to purchase them, and thus much trouble is saved; but when once a beginning is made, and a dozen plants or so are raised every year, they form a succession, and the weary waiting for more than two years, which so harasses the imagination, is lost sight of.

The white variety is scarcely so robust, but when grown along with the blue is equally ornamental. As plants for the mixed or herbaceous border, these Campanulas are very fine, although there they have not the same stately dimensions nor delicate colours which characterise them under glass. A warm sheltered border, backed by a wall or shrubbery, is the situation which suits them best.—Ayrshire Gardener.

THE QUINCE STOCK.

I believe more men fail with the Pear upon the Quince than upon the Pear, for the simple reason that they fail to perceive a very different mode of treatment is necessary for the one than the other. It is not uncommon to hear a gardener say, "Well, I have discarded the Quince stock as useless. I planted a number of them with a number worked upon the Pear side by side; they all received the same treatment, and the end of it is, I would not see them about the place!" Now this is exactly what I find fault with. Such gardeners belong to the same class as those quack doctors, who will not be loath to make you believe that they can give a box of pills, or some other trash, which will cure humanity of all the ills to which it is heir. Let the gardener who plants Pears upon the Quince understand that he has a very different subject to treat than the Pear upon the Pear. The latter is in its natural and most congenial position; the former is, as it were, a sojourner in a foreign land. The former is sure to succeed if the soil and climate suit, if root-pruning is attended to regularly, and the tree kept free from its various and many enemies. But then there are many soils and situations where the Pear will not succeed upon the Pear unless deep artificial borders are made.

The west of Scotland, as I formerly said, is one of these, the average depth of soil in many of its districts not being more than 12 or 15 inches, while close beneath this lies a stratum of gravel highly impregnated with iron. Now I will ask any reasonable man, Will the Pear stock succeed in such a position, seeing that it must be utterly impossible to keep the roots from entering this bad substratum, even suppose we had the power of root-pruning once a-month? It may be possible for a few years, but only for a few. Almost as soon as the tree began to bear, disease, canker, and death would be draining its very life blood out at every leaf. Another enemy we here have to contend against is wet; and I believe and know from experience that the Quince is a better resister of damp than the Pear, where properly managed.

I have here about five dozen Pears on the Quince and five dozen on the Pear. They are open for inspection to every inquirer. They are five and six years of age, and I have no hesitation in decidedly affirming that those upon the Quince are the best trees, produce the best wood yearly, which ripens as hard and brown as a Vine, and, to add to all, their appearance is much more handsome; and from what I have seen elsewhere, when they arrive at full bearing, the Quince will prove the more profitable investment of the two.

Those worked upon the Pear will be root-pruned this year in autumn, which will be the second time during their five years' existence, and in some cases it will have been oftener.

Those upon the Quince we manage in quite a different way. Every year, or at least every two years, we cut a trench round each plant, being as careful as possible not to injure one of the roots. We often remove the soil away from them to a little extent, to enable us to get the fresh materials placed as near the body of the roots as possible. This being done, we introduce a fresh mixture of richly manured loam, placing the roots which were laid bare into their position as we proceed. We also proceed to uncover the upper surface all over the extent of the plant to the depth of 3 or 4 inches, or until we find that we are coming into contact with the upper roots. Into this we

place 3 inches of good rotten dung, covering the whole over with an inch or two of soil. Now, no one can deny but that there is as little trouble in doing this as in root-pruning; and if this be the case, and the after-results prove better, the advantage entirely lies with the Quince stock.

Our reasons for proceeding upon these principles with the Pear upon the Quince are as follows:—The Quince, as every one knows, is a weakly grower compared to the Pear, therefore by placing the Pear upon it we are imposing a burden greater than it can bear in a natural way.

It is impossible that the Quince can do the work required of it by the Pear without assistance, and it is still more wonderful that so many intelligent and able gardeners should expect it to do so.—James M'Millan (*The Gardener*).

FRUIT-GROWING AT MR. DANCER'S, LITTLE SUTTON, CHISWICK.

A more pleasing walk than that which I have just finished, or a more splendid sight in fruit than that which I have just seen in Mr. Francis Dancer's great market fruit garden at Chiswick, cannot well be imagined. Fruits—good fruits—are at all times pleasant to look upon, but when seen as they are grown in Mr. Dancer's establishment, which was so ably and fully noticed by "Leo" in the last two volumes, they are something more than that.

Although the present is not quite such an abundant fruit season as the last—indeed, in many districts the crops are painfully short, and dire complaints reach me from all quarters—Mr. Dancer seems to have fared well, and with few exceptions, principally amongst the Plums, his trees are again as densely laden as ever. The lines upon lines of trees of Denyer's Victoria Plum bending beneath their heavy freight, every little twig having to be supported by sturdy props, are really a grand sight. The enormous weight of fruit borne by these trees is very astonishing, and all the fruit are of large size and splendid quality. This Victoria is the Plum of the season, heavily cropped everywhere, yet nowhere have I seen it so fine as here, and this is attributed to the high cultivation of the soil, which is heavily manured for vegetables. The trees grow very vigorously, and are left unpruned, so that the strength of the tree is directed towards the fruit instead of the production of mere shoots, as would be the case if they were pruned closely back. The other varieties of Plums cultivated by Mr. Dancer are not this season so heavily laden, although Mr. Dancer's favourite variety, Mitchelson's, is yielding well, and there has been a fair sprinkling of that most excellent market Plum, Gisborne's, which cannot be too highly recommended. It commands a high price in all its stages. It is one of the best kinds for bottling green, and makes an excellent preserve when ripe. Plums this season, like Peaches, had their blossoms destroyed by the cold, cutting winds in spring.

Another pretty sight here is a long line of dwarf Beurré d'Amanlis Pears on the Quince stock, very heavily laden with large and beautiful fruit. This is a fine-looking variety of Pear and a great bearer, of fair average quality. It is not, however, so good in quality, nor so well known in market as Williams's Bon Chrétien, which comes into use at the same time, but the heaviness of the crop generally produced makes it not an unprofitable sort to grow. Of other Pears bearing good crops, cultivated extensively by Mr. Dancer, may be mentioned Jersey Gratioli, a really good market variety; Louise Bonne of Jersey, the very best Pear in cultivation, taking all points into consideration; Aston Town, a rather small sort, but a prodigious bearer; Beurré de Capiaumont, Beurré Bosc, and several others.

The grandest sight here, however, and one which all fruit cultivators ought to have seen (the fruit will be gathered ere this is printed), is the crop of Small's Admirable and Lord Suffield Apples, two of the finest early kitchen Apples in cultivation. It is very extraordinary and very splendid. There may be somewhat over an acre planted with these trees, in lines of fifties or so, and about 10 feet between the trees in the lines. They are dwarf bush trees, like good-sized Gooseberry bushes, and are bearing fruit nearly as abundantly; each fruit a specimen—clear, large, fine, and nearly uniform in size. Some lines of these trees are grafted on the English Paradise, and some on the Crab stock as received from Mr. Rivers, and a more capital illustration of the superiority of the one stock over the other could not be desired. Those worked on the Paradise are not nearly so large; they are, however, bearing nearly double the quantity of fruit, and further, the fruit is finer, clearer, and larger. The difference is very marked in every way; the strongest and the most vigorous trees bearing not only the smallest quantity, but the smallest fruit, and these are on the Crab stock. Who would use the Crab stock for Apples, excepting for large rampant standard orchard trees, after seeing such superior results obtained by the use of the Paradise under exactly the same conditions? These dwarf fruiting trees are much preferred by Mr. Dancer to the tall orchard standards generally to be seen in market gardens; they produce fruit more abundantly, more regularly; they are more easily attended to, and the crop is more easily gathered, which last is no small consideration, the expense and the danger in gathering fruit on tall trees being very great. Further, the fruit on the dwarf trees are not so liable to damage and loss as those on tall ones, which are at the mercy of every little gale.

Amongst other Apples bearing profusely here this season may be mentioned a variety named Barchard's Pippin, a late sort, in the way of King of the Pippins, and of very good quality. It is a clean and vigorous grower, and always a very determined bearer, consequently a valuable market sort. Manks Codlin also looked well. It must, however, be very vexing to Mr. Dancer to see acres of his beautiful orchards being felled to the ground for the erection of ricketty take-in buildings and unprofitable railways. Cox's Orange Pippin is also bearing enormously—some hundreds of bushels of fine fruit. The little Yellow Ingestrie Pippin is also greatly cultivated, and found very profitable; also the Golden Noble, Cox's Pomona, &c.

The practice here followed in fruit culture is to grow the trees well, to plant thickly, so as to cover the ground quickly, to obtain the fruit as near the ground as possible, and to leave pruning and pinching alone, doing nothing further than shortening the ends of some long straggling shoots, and thinning the branches where too thick, so as to allow plenty of light and air to every portion of the tree. That it is successful is best determined by the results, the like of which I have never seen.—Archambaud.

HOLLYHOCK CULTURE.

This noble autumn-flowering plant is very much neglected being interspersed amongst other plants in shrubbery borders but if planted in rows in rich, well-drained soil, so as to form a background to a neat border, it would well repay the grower with a splendid display of bloom.

It is propagated by cuttings, single eyes, and seeds. The cuttings should be taken off the plants early in spring, and do best dibbled in light soil in a frame where a slight bottom heat can be given. When well rooted take them carefully up, and plant them in 6-inch pots, using one-half rich loam, one-fourth well-decayed manure, and one-fourth leaf mould, with a good dash of silver sand, all well mixed together. Remove the plants to a cool frame for a short time to harden-off previous to planting them out in the open ground. This mode of propagation has the advantage of affording a succession of blooms after the old plants have succumbed, and though the spikes are not so fine in the first season as those on old plants, they will fully equal them the next.

The next mode of propagation is by single eyes taken off in July and August, and inserted in light soil, in pans well drained, and plunged in a frame in tan or leaves, so as to have the assistance of a little bottom heat, giving air as required. When the eyes have made a little growth, and are sufficiently rooted, pot the young plants singly in 3-inch pots, replace them in a close frame for a few weeks, and when the pots become full of roots another shift will be required, this time into 6-inch pots, using soil as directed for cuttings. At this stage the plants may be placed in a cool pit or frame to protect them through the winter, admitting plenty of air on all favourable opportunities. They will be ready for the open ground in spring.

The third method of propagation is by seeds, which should be gathered early in the autumn from the most double blooms of the finest shape and colour, and sown in pans, giving the seedlings the same treatment throughout as plants from single eyes

Plants established in the ground, if planted in well-drained soil, may be left there all the winter, merely protecting them with a covering of coal ashes.

I have practised the mode of culture I have described, and

found it most satisfactory. I have many plants measuring upwards of 12 feet high, and covered with blooms from the base to the apex.—HENRY C. OGLE, *Welwyn*.

AMONG THE ROSES.

NOT young love at his pranks, but old, sober, staid affection, which never tires of the objects of its love; and as I had lately an opportunity of paying a visit to two of the most celebrated of our Rose gardens—those of Messrs. Rivers, of Sawbridgeworth, and Messrs. Paul & Son, of Cheshunt, I have deemed it well, notwithstanding the notes I have already given, to append thereto a few remarks made in company with Mr. Perry and Mr. George Paul. The former has been among Roses for many a long year until he has grown grey in the service; but he still retains all the enthusiasm of youth, mellowed, however, with the experience of age. He sees not a Venus in every new and highly praised *débutante*, but he can and does appreciate to the full extent the lovely damsels who now and then appear as brilliant stars in the train of the queen of flowers. Like his employer he loves the Rose, and rejoices over the increased and increasing favour she is receiving. Of Mr. George Paul, it is not too much to say that he is the most successful exhibitor that we have. Wherever he has appeared this year (save once), with his cut blooms, his spear has borne down all before it, and I should think he might paper his room with the first-prize cards that he has obtained. From such sources one is sure to obtain some valuable information.

It was on the principle of the "early bird getting the first worm" that I sallied out in the morning before breakfast to encounter Mr. Perry, and I do not think that Mr. Perry considered he was a foolish worm to be out so early to be caught. The morning was bright; and although in August one does not expect the flowers of June, yet in that wonderful Hertfordshire soil you may expect them if anywhere, and I did see some very fine, yea, grand blooms. And as one saw quarter after quarter of plants on the Manetti, the thought did arise, What would Rose-growing be now had it not been for the introduction of that stock by Mr. Rivers?

As we walked along, Roses were criticised and examined, and opinions compared. We very seldom disagreed in our estimates, and I now give the principal results of our little tour. Paul Verdier must be discarded, as it is nothing more than a Hybrid China. Of Adrienne Marx the same must be said. Charles Verdier, although bearing the name of an honest good rosarian, must go, as it will not open. Joséphine Beauharnais is very good, but not vigorous enough. Annie Wood is sometimes very fine, and will make a good pillar Rose. Monsieur Noman is excellent, as we all consider it; Antoine Ducher, very good and fine; Thorin, bright, but not full enough; Eugène Scribe, good; Souvenir de Monsieur Boll, very good this season; Fisher Holmes, very bright and good; Souvenir de Mons. Corval, no good; Marie Larpin, a sweet little Bourbon, a Modèle de Perfection with a better habit. Boule de Neige is a beautiful pure white; Duchesse d'Aoste, good; François Fontaine, good crimson; Ville de Lyon, good bright rose; Prince Humbert, good; Merveille d'Anjou, no marvel at all, and very flat; Aurore du Matin, not good; and Madame Alice Dureau, a very nice Rose. Coquette des Alpes is very pretty, especially when the edge of the petal is bordered; Pitord, good; Charles Lee, bright crimson, good; Thyra Hammerick, excellent; Marquise de Mortemart, good; Madame Bertha Baron, poor; Mdlle. Marie Rady, good; and Mdlle. Marguerite Dombrain, excellent. It must be remembered that Mr. Rivers is not now an exhibitor of Roses, and that these remarks do not simply apply to the exhibition table, but are a general comment on the flowers as they are.

I started by midday train for Cheshunt, and had intended to have paid Mr. Francis a visit at Hertford, but was obliged to postpone that until later in the season. Of the Old Nurseries of Messrs. Paul & Son it is needless for me to speak. They have long been famous, and their wonderful soil, well seconded as it is by the skill and experience of the present owner, tend to keep them so. Here, too, I had the advantage of a ramble through the Rose grounds with Mr. George Paul, and as we went along the following notes were made. Conspicuous among crimson Roses was Duke of Edinburgh, originated, as it is well known, at this nursery—a Rose which has improved very much since its first introduction, although then considered first-rate; it has a brilliancy quite unsurpassed—nay, I may almost say unequalled, reminding me of the blooms I saw of Napoleon III. at Vitry, but which I have never seen on that miffy Rose since. Then the constitution is so good and the habit so fine, that they add greatly to its value. I saw also here a Rose which may be valuable by-and-by, a climbing Victor Verdier. Near it was a row of the old kind, vigorous enough, but this had shoots 6 and 8 feet long, retaining the fine flower of the parent with this largely developed growth. Mr. Paul purposes growing it on and sending it out in 1870, if it still maintain its character.

Then there were Madame Caillat, good, clear bright red, and a variegated-leaved form of the same; Baroness Rothschild—and is it not a beauty?—considered justly on both sides of the Channel as the best Hybrid Perpetual of 1868; Reine du Midi, doubtful; Mrs. Bellenden Ker, one of Lacharme's white breed, like Baronne de Maynard, &c.; Mademoiselle Marie Cirodde, over-praised, it may be suitable for a pillar from its vigorous habit, but that, I believe, is all; Princess Mary of Cambridge, another of the Cheshunt Roses, and a very beautiful and useful flower; Black Prince, very dark; Camille Bernardin, excellent, especially as a garden Rose; Horace Vernet, very brilliant, although a little crenated on the edge; Madame Thérèse Levet, a very beautiful bright cherry rose, of fine form, and has made a distinguished appearance this season in Messrs. Paul's stands; François Trevye, bright scarlet, shaded with brownish crimson; Jean Lambert, a good scarlet, with open flowers, very free in autumn, and quite distinct; Victor le Bihan, good; Elie Morel, light rose, with clear pink edges, very fine; Madame Alice Dureau, a large and full globular flower; and La France, fine, and excellent for its habit and continuous blooming.

The stroll through these nurseries suggested to me the desirability of making plantations of Roses on their own roots now. It is not everybody, like my good friend Mr. Radclyffe, who can move Manetti-stocked Roses in August; but Roses in pots of most of the good kinds can now be had, and if put out at once, a season would be gained. Already the cry, "They come! they come!" is heard. Guillot has some fine new Teas; Lacharme, I am told, a fine dark Rose; and when one hears growers praise another man's productions, alas! such is human nature, you may generally conclude that there is something in it.

Why do not some of our amateur growers give us their experience of the different varieties, mentioning their soils and situations? it would be a valuable guide to others. Doubtless, they are often deterred because they think there is nothing novel in what they have to say; but facts are always novel—*i.e.*, they bear on some case or point on which light is thrown by them. If a man says his soil is heavy, and such-and-such Roses are good, I am at once, if my soil is similar, stirred up to think perhaps they would do with me too, and the fact becomes a novelty to me. So pray do not let Mr. Radclyffe, Mr. Hole, and myself, monopolise the Rose talk. I had written thus far when a note came in by post from Mr. Radclyffe, telling me he had won the two first prizes at Blandford. He says he had 150 there, and that Duke of Edinburgh, Marguerite de St. Amand, and Baron Hausmann, were among the best that he saw at the show.—D., *Deal*.

DO BIRDS EAT ALPINE STRAWBERRIES?

I OBSERVE in your last number the question, "Do Birds Eat Alpine Strawberries?" and as my experience may not be uninteresting to your correspondent "H.," I may mention that four or five years ago a couple of packets of Alpine Strawberry seed (white and red), were purchased. The seed was sown in pans in the middle of March, on a little heat; the plants when up were hardened-off, pricked out into boxes, and placed in a cold frame, and finally planted out in the end of May. A fair crop of fruit of very fine quality was the result that autumn; but by some chance the beds in which the plants were grown were not netted, and it was remarked at the time as something quite peculiar, that though the other fruit in the garden was beginning to be scarce, yet not a single Alpine was touched by the birds.

The following year, and ever since, we have had the most abundant crops of Alpines (the runners are never cut), about the first Strawberries that ripen, lasting the whole summer in the greatest profusion; and at the present moment, August 23rd, they are still going on, not a net ever having been near them, though, be it remarked, with regard to other fruit—

Gooseberries, Apples, and Pears included—were it not for the nets the birds would leave us nothing.—D. H.

PLANTS FLOWERING IN JULY.

July 3. Silene alpestris
inflata
maritima plena
Potentilla alba
Hopwoodiana
argeotea
Thymus vulgaris
Serpyllum albus
cephalotes
Acanthus mollis
Achillea ægyptiaca
aurea
Clavennæ
Millefolium rosea
Ptarmica plena
compacta
Eccremocarpus scaber
Epilobium angustifolium
Glaux maritima
Helianthus multiflorus
annuus
Hemerocallis flava
fulva
Linaria vulgaris
purpurea
„ 6. Phyteuma orbiculare
Verbena venosa
teucrioides
Thalictrum majus
Aconitum Napellus
versicolor
Asphodelus luteus
Œnothera macrocarpa
Fraseri
biennis
Cineraria maritima
Sedum acre
sexangulare
ibericum
neglectum
dentatum
anglicum
Hydrangea japonica variegata
Narthecium ossifragum
Linaria elegans
pilosa
Ononis rotundifolia
Epipactis palustris
„ 9. Campanula garganica
carpatica alba
Medium
mollis
latifolia
rotundifolia
Alstrœmeria aurea
psittacina
Orchis maculata
pyramidalis
Geum coccineum
montanum
Veronica fruticulosa
dentata
incana glauca
sibirica
saxatile
Briza maxima
„ 12. Lathyrus magellanicus
Ammobium alatum
Entoca viscida
Heliotropium peruvianum
Mimulus cardinalis
atrosanguineus
cupreus
luteus
Sanvitalia procumbens
Delphinium Ajacis
Consolida
Lavatera trimestris
Nolana atriplicifolia
paradoxa
Œnothera Drummondi
Adonis æstivalis
autumnalis
Stipa pennata
Tagetes patula
Amaranthus speciosus
tricolor
Matthiola annua
Salvia Horminum
Whitlavia grandiflora
gloxinioides
Papaver orientale
Pectis angustifolia
Pentstemon gentianoides
„ 16. Rudbeckia amplexicaulis
Salvia argentea
patens
splendens
Petunia grandiflora
Malva zebrina
Morenii
Lantana crocea
Lasthenia californica
Lathyrus latifolius

July 16. Lathyrus venosus
Potentilla atrosanguinea
Pyrethrum incarnatum
Golden Feather
Lophospermum scandens
Lotus corniculatus
Lupinus
Schizanthus pinnatus
Sedum cæruleum
Silene compacta
Pseudo-Atocion
rubella
Schafta
„ 20. Lobelia speciosa
ramosa
Erinus
Loasa lateritia
aurantiaca
Nemophila insignia
atomaria
maculata
Phlox Drummondi
Tagetes pumila
Scabiosa candidissima
Tropæolum majus
peregrinum
Eragrostis elegans
Armeria maritima rosea
Arundo Donax variegata
Clematis integrifolia
Aster spectabilis
Cousinia hystrix
Morina persica
Lythrum roseum superbum
Salicaria
Drosera anglica
rotundifolia
Betonica stricta
Nicotiana virginica
Malope trifida
„ 21. Nierembergia rivularis
Nigella hispanica
Oxalis rosea
Oxyura chrysanthemoides
Antennaria hyperborea
Arabis lucida
Actæa apicata
Linum Lewisii
perenne
grandiflorum
Leptosiphon densiflorus
Gilia tricolor
capitata
Antirrhinum majus
Aquilegia vulgaris
formosa
Calliopsis tinctoria
atrosanguinea
Humea elegans
Hymenoxys californica
Eschscholtzia californica
Brachycome iberidifolia
Cacalia coccinea
Calandrinia diacolor
umbellata
Gaillardia picta
Richardsoni
Fuchsia fulgens
globosa
Callirhoe digitata
pedata
„ 29. Anagallis cærulea
tenella
grandiflora
Anchusa italica
paniculata
Arctotis breviscapa
Lavender
Leptosiphon aureus
luteus
Linaria bipartita splendida
Mesembryanthemum tricolor
glabrum
crystallinum
Myosotis palustris
Portulaca grandiflora
Iberis candidissima
Ionopsidium acaule
Ipomœa grandiflora
Quamoclit
Kaulfussia amelloides
Heracleum giganteum
Cruciancella stylosa
Cupheas
Dahlia imperialis
Datura Stramonium
atroviolacea
Delphinium formosum
Centaurea depressa
moschata
Catananche bicolor
Clintonia pulchella
elegans
Chelone barbata
Cladanthus arabicus

—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

WONDERS OF AN AMATEUR.

I WONDER whether any amateur read the excellent treatise in your number of May 28th, 1868, with regard to "Standard Nosegay Pelargoniums for Winter Blooming?" In my humble way, with many drawbacks, I followed the system indicated, and was rewarded by specimens of Cybister and Stella, the only Nosegays I owned, which amazed my friends and myself, and induced me to procure this summer every variety therein suggested, with a view to the winter.

I wonder whether I am lucky in having all my specimens of Lilium lancifolium roseum, in 8-inch pots, with eighteen and nineteen healthy buds and blossoms each?

I wonder whether everybody knows that the Scarlet Lobelia will flower luxuriantly, to the height of 3 feet, in 4-inch pots, in dwelling-rooms?

I wonder why Sunset and Beauty Pelargoniums—the latter, perhaps, capricious as her name—decline to grow healthily under my auspices?

I wonder why I never saw till last year Tropæolum speciosum, a hardy, tuberous, trifoliate variety, with a luxuriant habit and a carmine blossom, figured, I see, in "Paxton," just twenty years ago? It came under my notice in an old Scotch garden, and seems to luxuriate in its new quarters near Windsor. I wonder, too, why more use is not made of the Tropæolums (or Nasturtiums), for the winter-decoration of the conservatory? Sown in September they will enliven the house for two or three dull months in the winter.

I wonder whether we amateurs shall ever have a handbook, which, in addition to telling us that Cactuses, for instance, are of the Cactaceous tribe, and entering into the specific distinctions of plants and details of the history of their discovery, will inform us of their practical management? [The "Cottage Gardeners' Dictionary" does so.]

I wonder, lastly, and I do it with trembling, why, when I wrote to ask you for a plan for a bed on a grass plot, 18 feet by 3, I was met by the chilling answer that I could get a book on garden plans for 5*s.* 4*d.*? I cannot afford such a luxury. If I had asked you to recommend a nurseryman to me, I should have expected you to refer me to your advertisements; but the kind, copious, and judicious directions with which you had previously furnished me for the treatment of certain pet plants, led me to hope that such a simple thing as a plan for a ribbon-border might be within your power and will to bestow on me. [If you send a plan we will tell you how to plant it, but we cannot undertake to furnish one.]—RUSH.

DOUBLE GRAFTING.

I SEE in your Journal of August 19th, page 138, an article on the above, by some person styling himself "OBSERVER," who sends us spinning to the Romans, Chinese, and Tartars to look for evidences of double grafting from 2000 to 10,000 years ago. I do not exactly know whether these same gentlemen lived and practised grafting before the stone age, or whether Tubal Cain had appeared amongst them, yet such must have been the case, as appears from the erudition of your correspondent. I myself am half afraid that the edge tools were not so well adapted for cutting purposes as those made by Saynor in our day.

As to "OBSERVER'S" instinctively having double grafted when a boy, why I believe that, as I happened to do the same thing myself by working eight or ten sorts of Apples on one tree, only I had slyly watched my uncle doing the same thing, I think fifty-five years ago last March. In this, I think, "OBSERVER'S" instinct had the best of it. It was a wonderful performance for a boy of tender years certainly, and I am pleased it has been recorded in the columns of THE JOURNAL OF HORTICULTURE, as a stimulant to others to go and do likewise. As to the more extended sense of the subject, I may say that I have been a double-grafter "for a purpose," in a nursery point of view, more than forty years, and I know that our continental neighbours have practised the same for commercial purposes for at least the last half century, and many years ago I could buy in the French markets Pears on Quince stocks worked by the thousand for the purpose of being double grafted. And here I will say, that "OBSERVER" is wrong in recommending the Angers Quince as the best, the Portugal sort is the best and hardiest. The Angers sort here is destroyed by every hard winter. As to the Paris Quince I never heard of it before, although I have twenty-five sorts, but this just shows that I am not quite up in the stock line.

What your correspondent means by "the flourish of trumpets" that would have been made if a Frenchman had attained the same success in double grafting as "OBSERVER'S" friend

has, I am at a loss to know. And he goes on to say that Mr. Rivers has discovered an intermediate stock for double grafting Pears upon, but "OBSERVER" was not surprised to find that its name was withheld, because of the ingratitude of the present generation in not properly acknowledging all his patron's doings and sayings. Now, I am going to be more generous to "ungrateful public," as I do not care whether he is grateful or the reverse. I work for the love of the thing, and shall give the public all the assistance I can. I know he cannot get on without such fellows as I. And as I have also discovered an intermediate stock of wonderful proportions, strong as a giant and dwarf as Tom Thumb, I mean to give the public the benefit of my discovery, and let him be grateful or not as he pleases. I do not think he will be able to help himself when he gets some of my nice luscious Pears I mean to grow on our little dwarf friend for him—*i.e.*, on the Nain vort, whose action on the graft is wonderful. Such giant-growing kinds of Pear as Gilogil, Catillac, Triomphe de Jodoigne, Jargonelle, Uvedale's St. Germain, &c., are reduced to prolific dwarf bushes, which bear wonderfully. And the seedlings of this little tree come true, and can be grafted at once, or may be first worked upon the Quince, and then double grafted as may seem best; only it does not matter much as regards their dwarfing nature whether they are double worked or not, but trees worked first upon the Quince generally give better flavoured fruit. This is especially the case in dry seasons, in wet ones the difference of flavour is not so apparent.

With respect to double grafting the Apple, I have for some years worked Manks Codlin, Keswick Codlin, Downton Pippin, and several other dwarf-growing, free-bearing kinds, and then regrafted them with other large shy bearers; the result has generally been good. But all this double work is set aside by my Pommier de Paradis stock, which has the merit of growing well, dwarfing the trees worked upon it, rendering them at the same time more prolific and better flavoured. No one else seems to possess this fine stock, as all the examples brought to a comparison with it have proved not to be anything like it, nor so valuable in so many points of view.

The last clause of "OBSERVER" is quite correct, and has been a subject of investigation for a number of years by many pomologists, &c.; and it is not looked upon as in any way chimerical, but, on the contrary, as a well-known matter of fact, that all fruits are either improved or deteriorated by the kind of stock they are worked upon—for instance, the Apricot, which we generally work upon Plum stocks, is thereby improved in size, flavour, and quality, whilst the same worked upon stocks obtained by sowing Apricot stones is generally deteriorated in size, quality, and bearing. The same holds good with many sorts of Peaches and Nectarines budded upon Almond stocks, whilst, on the contrary, these are again improved by being budded on the Plum. This is a fact that I myself have proved over and over again many years ago, and to those conversant with these matters it is well known that even the very kernels of Apricots and Peaches are affected by the kind of stock the trees have grown on. The subject, therefore, of stocks is one that cannot be compassed by the intelligence of any one individual, nor by any one generation of men. It is one of those mysterious chemical subjects, like the extraction of many colours by one plant, say, Tropæolum tricolorum, out of the same portion of earth, that almost bids defiance to man's ingenuity. It is, therefore, a work of generations to solve this influence of the stock upon the graft, and *vice versâ*. —JOHN SCOTT.

PAPERS READ AT THE HORTICULTURAL CONGRESS AT MANCHESTER.

REMARKS AND EXPERIMENTS ON THE APPLICATION OF WATER TO THE ROOTS OF PLANTS

GROWING UNDER GLASS.

PLANTS, like human beings, breathe, digest, and perspire. These important functions being principally performed by the leaves, it is a certain and just conclusion that whatever treatment promotes the healthy and free action of these organs, does a proportionate amount of good to the plant. Cleanliness, a pure atmosphere, and a regular and suitable temperature, with a proper amount of light, may be regarded as the leading conditions requisite for healthy vegetation; but although perfection in plant-growth depends so much upon the due performance of the functions of the leaves, yet there is a prior consideration—viz., the roots of the plants. The roots of a plant may be described as being its foundation, because they are the organs soonest developed, also the first substantial agents at work towards forming and building up a plant. A plant will not sustain life long without its roots, but there are many instances where the roots will live without branches or leaves for a greater length of time, and they have the power of throwing out fresh ones. However, the more a person dives into the vast subject of vegetable life, the more complicated and marvellous does it appear, especially root action and root growth, the roots penetrating the earth in every direction in search of food, and, when confined within the limits of a pot or other vessel, tightly enveloping the earth in their network as if jealous of the treasures stored up in the soil.

Heat and water are as essential to the formation and growth of roots as they are to wood and leaf development; they must both be present in the atmosphere as well as in the soil, and it is on the artificial application of water to the roots of plants that I purpose offering a few remarks. I have confined them to plants growing under glass, because everything growing under it is influenced by the proper application of water.

It has long since been a recognised fact, that plants search after and obtain food by the agency of their roots, and that the food so obtained is taken up by these in a liquid state and conveyed to the leaves for digestion; and no plainer proof of this fact need be stated than that, when a plant becomes sufficiently dry at the roots to flag, it soon recovers itself when water is applied to them. But without discussing the various other modes by which plants obtain their support, the above facts are convincing that water not only affords food to the plant of itself, but has also the power of rendering the chemical parts of a soil soluble and capable of being taken up by the roots as required. It is, therefore, very necessary for all those who have charge of plants to use every means in their power towards gaining a thorough knowledge of their wants in the way of water at the roots, for it is as easy to give a plant too much water as to give not enough, and either extreme is injurious to the plant and disappointing to the cultivator. Let me impress upon beginners, for whom these remarks are principally intended, that such knowledge is not to be gained without considerable experience and close observation. It will, however, not be very difficult to put my remarks into practice, for I am not prepared to lay before you the results of a series of puzzling and scientific experiments with water, but simply to lay down a few rules and impart some information on watering.

In order that water may be applied to plants under glass in the most beneficial way, it is absolutely necessary to know what relation the temperature of the soil bears to that of the atmosphere of the house. I have tried it many times and have found that from a 16-sized (9-inch) pot downwards the temperature of the soil is about the same as that of the air, and subject to the same variations, but above that size, including the largest tubs and other vessels used for plants, the average temperature in a day is a degree or two lower, but subject to less variation. In large beds and borders from 2 to 4 feet in depth, and with the surface exposed to the atmosphere of the house, the temperature on an average is several degrees lower, with but trifling variation. From these facts it appears that the larger the bulk of soil the more uniform is the temperature. Such facts go far to prove why plants thrive so well when planted out in borders.

In coming to the next subject—viz., the influence of water on the temperature of the soil, I may remark, that during my four years' experience of it, I have tried all sorts of soils in which house plants are usually grown, and I find that water has the effect of lowering as well as of increasing the temperature of the soil; for instance, water at a temperature of 60° applied to a pot of soil having a temperature of 75°, reduces the heat to 67°; but reverse the experiment, and apply water at 75° to soil at 60°, and the temperature rises to 65°, or about one-third of the difference between the two original temperatures. According to another experiment—applying water of the same temperature as that of the soil, the heat of the latter is increased two or three degrees; but if the water is 2° colder than the soil, it has no apparent effect on the temperature. From these experiments we may conclude that the nearer the temperature of the water is to that of the soil, all other conditions being favourable, the more progress the plant makes; for although the variations of temperature caused by water are but of temporary duration when it is applied either too cold or too warm, yet repeated applications of water in one or other of these conditions often cause a permanent derangement of the functions of the plant, which no after-treatment can thoroughly remedy. Three years ago I selected a batch of two dozen even-sized Cinerarias, and placed them under one structure; one half were watered with cold water at a chance temperature, whilst the remainder always had water of the same temperature as that of the house: in three weeks anyone might easily have picked out the former; their foliage was of a lighter green, thinner in texture, and not so large as that of the others; their roots were more wiry, and less numerous; and the plants were many days later in coming into bloom. I have been in the habit of growing Vines in pots from the eye to the ripening of the fruit in twelve months, and when the above experiments were tried with them, the results were similar, with in addition much shanking in the bunches of those Vines which had cold water applied to them. The Vines which I exhibited at the International Horticultural Exhibition in 1866, were from a number of the best-treated ones.

The foregoing facts with regard to the application of water to plants, will be sufficient to teach the gardener the importance of comparing the temperature of the water he uses with that of the house he enters

before applying it to plants, and then, if proper judgment be exercised, the results cannot fail to be satisfactory.

Before concluding, I feel anxious to call attention to a few irregularities in the system of watering practised in many places, the principal being periodical watering and not choosing the proper time for it. The former is bad in principle, because it induces the operator to anticipate the dryness of many of his plants, while others will have become so dry as to baffle all efforts to soak the ball of soil by means of the watering-pot; as a natural consequence many plants are overwatered, while the dryness of others renders it necessary to immerse the whole ball in water. This I consider as great an evil as the former, because the roots are inactive from drought, and an excess of water suddenly sets them to work, forming a number of irregular and deformed growths, and in some cases decomposition and death follow. As regards the proper time for watering, I am of opinion that the best is before the house is opened in the morning, or at shutting up in the after part of the day, because, as the house is closed to external air, evaporation is not going on so rapidly, consequently the action of the roots is steady and progressive, and at all times equal to the demand made upon them by the branches. Excessive dryness and excessive moisture at the roots are the great enemies to plant cultivation.—T. Record, *Gardener to Col. E. Lloyd, Lillesden, Hawkhurst.*

DAVENHAM GOOSEBERRY SHOW.

August 2nd.

				dwts.	grs.
Twins	P. Bancroft..	Yellow ..	Antagonist	36	12
Steward's Prize ..	P. Bancroft..	Red	Red Robin	24	14
Steward's Prize ..	R. Forster ..	Yellow ..	Mount Pleasant	24	6
Steward's Prize ..	W. Ryley ..	Green ..	Thumper.....	22	0
Steward's Prize ..	G. Plant	White ..	King of Trumps	21	0

RED.

P. Bancroft.....	Red Robin	23	10
P. Bancroft.....	London	23	0
J. Sanders	Clayton	22	10
G. Plant.....	Beauty.....	21	0
R. Forster	Wonderful	19	12
R. Forster	Flixtonia	19	10

YELLOW.

P. Bancroft.....	Leader	22	16
R. Forster	Leveller	21	13
W. Ryley	Stella	21	0
P. Bancroft.....	Drill	20	10
R. Forster	Catherine	19	16
G. Plant.....	Mount Pleasant	19	0

GREEN.

P. Bancroft.....	Turncat	22	20
P. Bancroft.....	Thumper	22	10
J. Such	Greenock.....	21	0
W. Ryley	Telegraph	20	14
J. Sanders	Gretna Green	20	0
W. Ryley	Tom Joiner	19	14

WHITE.

P. Bancroft.....	Antagonist.....	23	12
R. Forster	Hero of Nile	22	10
P. Bancroft.....	Snowdrop	21	0
J. Sanders	Lady Leicester	20	18
G. Plant	Careless	20	10
G. Plant	King of Trumps	20	0

—Thomas Dobell, *Seedsman, Northwich, Secretary.*

SOUNDS OF TREES.

The sounds and motions of trees constitute subtle but important elements of pleasure. It is not enough that a tree shall have a comely form as a whole; that it cast a dense shade in the sultry days of summer, and that, perhaps, it yield a nut or fruit; and finally that, when it falls before the inevitable axe, its prostrate trunk shall furnish good timber. Besides these uses of bodily comfort and of economy, a tree, like a rich-hearted person, has a hundred harmless ways, which we hardly stop to analyse; but which, if they were suddenly taken away, we should miss.

The murmuring of trees is profoundly affecting to a sensitive spirit. In some moods of imagination one cannot help feeling that trees have a low song, or a conversation of leaves. They whisper, or speak, or cry out, and even roar. No one knows this last quality so well as those who have been in old Oak forests in a storm, with violent winds. A dense forest opposes such a resistance to the free passage of the air, that the sound is much deadened. But in a park, or Oak opening, where spaces are left for the motion of the air, and among open-branched trees, a storm moves with such power and majesty that not even the battles of thunder clouds are more sublime, and under certain circumstances it becomes terrific. At the beginning of the tempest the trees sway and toss as if seeking to escape; as the violence increases, the branches bounce back; the leaves, turning their white under sides to the light, fairly scream. The huge boughs creak and strain like a ship in a storm. Now and then some branches which have grown across each other are drawn back and forth, as if demons were scraping infernal base-viols. Occasionally a branch breaks with a wild crash, or some infirm tree, caught unawares in a huge puff of the storm, goes down with crashing as it falls, and with a thunder-stroke when it reaches the ground. I would go further to hear a storm concert than any music that man ever made. No one who is familiar with forest sounds but is sure, when he hears Beethoven's music, that much of it was inspired by the sounds of winds among trees.

There are milder joys, however, in tree converse. Only this morning I awakened to hear it rain. That steady plash of drops which a north-east wind brings on, is not easily mistaken. I flatter myself that my ear is too well trained to all the ordinary sounds of nature to be easily deceived! I rise and throw back the blinds, when lo! not a drop is falling! It is the wind in my Maple trees. I had thought of that, and listened with the most discriminating attention, and was sure that it was rain.

Twice in our lives we lived in houses built on the edge of the original forests. These had been thinned out and recesses opened up. It happened in both cases that an Ash and Hickory had been left, which shot up, without side branches, to a great height. The trunks were supple and tough. Whenever the winds moved gently, these long and lithe trees moved with singular grace and beauty. As there was no perceptible wind along the ground, their movement seemed voluntary. And yet there was in it that kind of irresolution that one sees in sleep-walking. But as soon as the breath became a breeze, the wide circles through which these rooted gymnasts moved were wonderful. They seemed going forth in every direction, and yet surely and quickly springing back to position again. And in every motion, such was their elasticity, they manifested the utmost grace. The sighing of winds in a Pine forest has no parallel sound except upon the seashore. Of all the sounds of leaves it is the sweetest and saddest, to certain moods of summer leisure.

The Pine sings, like the poet, with no everyday voice, but in a tone apart from all common sounds. It has the power to change the associations, and to quicken the poetic sensibility, as no other singing tree can do. Every one should have this old harper, like a seer or a priest among trees, about his dwelling. Under an old Pine would naturally be found the young maiden, whose new lover was far across the sea. In the sounds that would descend she could not fail to hear the voices of the sea—the roar of winds, the splash of waves running in upon the shore. A young mother, whose first-born had returned to God who gave it, would at twilight go to the Pines; for, to her ear, the whole air must needs seem full of spirit voices. They would sing to her thoughts in just such sad strains as would soothe sorrow. Nor would it be strange if in the rise and fall of these sylvan syllables, she should imagine that she heard her babe again, calling to her from the air.

Every country place should have that very coquette among trees, the Aspen. It seems never to sleep. Its twinkling fingers are playing in the air at some arch fantasy almost without pause. If you sit at a window with a book, it will wink and blink, and beckon, and coax, till you cannot help speaking to it! That must be a still day that does not see the Aspen quiver. A single leaf sometimes will begin to wag, and not another on the whole tree will move! Sometimes a hidden breath will catch at a lower branch, then shifting, will leave them still, while it shakes a topmost twig. Though the air may move so gently that your cheek does not feel it, this sensitive tree will seem all of a shudder, and turn its leaves upward with shuddering chill! It is the daintiest fairy of all the trees. One should have an Aspen on every side of his house, that no window should be without a chance to look upon its nods and becks, and to rejoice in its innocent witchcraft. I have seen such fair sprites, too, in human form. But one does not get off so easily if he takes too much sport with them. The Aspen leaf makes no wounds. Its frolics spin no silken threads which one cannot follow and will not break.

The musical qualities of trees have not enough been considered in planting around our dwellings. The great-leaved Magnolias have no sound. Willows have but little. Cedars, Yew trees, and Lombardy Poplars are almost silent. It is said that the Lombardy Poplar is the male tree, the female never

being brought over. It is very likely. It is stiff enough to be an old bachelor. It spreads out no side branches. Its top dies early. It casts a penurious shadow.—HENRY WARD BEECHER.

ROOTING TENDRILS AND LEAVES.

I QUITE agree with De Candolle in assigning the leaves of plants to be "but a modified, or changed form of branch;" and likewise am quite willing to agree with M. Lestiboudois that the tendrils of the Grape Vine (I have not experimented with the tendrils of any other class of plants), are nothing more than homogeneous branches, not leaves.

The reason I claim such to be the case is this:—I have repeatedly taken the leaf of the Grape Vine, and after detaching its petiole from the stem have rooted it (the leaves) with the same degree of certainty as the cuttings of the branches are rooted; although I must confess that they are longer in rooting, and much longer in throwing up a bud from the collar of the leaf than the ordinary cuttings are; but they will eventually throw up a bud, and ultimately make as good a plant as the plant grown from a single bud. After being so successful with the leaves, I thought that I would take the tendrils in hand, and try and see what I could make out of these. I accordingly, the past season, put in several pots of tendrils of the Rogers No. 4 variety, and after a long time was highly gratified to find that the majority of them had emitted roots, and after being potted-off singly, several of them actually made leaves, and filled the pots with fleshy, healthy roots, but did not show any buds before the cold weather set in and stopped their growing. I am sorry to state, however, that I have lost these plants that I had intended to have grown on next season. It will be noticed that I have called these rooted tendrils, plants; I call cuttings of anything young plants, as soon as they have made roots. My man, not being cognisant of these plants, threw them away with the refuse.—JAMES CHARLTON, *Rochester, New York.*

[To this communication, published in the "American Gardener's Monthly," Mr. E. Fryer, of Naperville, adds the following remarks in a subsequent number of the same periodical.]

Almost every observing gardener accustomed to the growing of Grape Vines, foreign and native, will have noticed on strong-growing, healthy Vines, that a tendril will sometimes change its form and become a miniature branch, small leaves showing on the upper part of the extended tendril. This fact, I think, goes to show that such tendrils at least are rather more than "modified leaves."

I have in many instances taken the leafy part of this tendril, when it acquired the proper condition, cut it up in pieces with a leaf at each, and rooted them in the ordinary way; the second season they will make strong plants, but as to whether they would bear fruit as well as cuttings struck from bearing wood, I have not yet had any experience. Healthy leaves I have struck with certainty and ease, and in one season they become a plant perfect in all its parts. With the tendril only, I confess I have not been so successful as Mr. Charlton. I have rooted them occasionally, but never succeeded in obtaining a perfect plant having either leaf or branch. If Mr. Charlton means by tendril what is generally understood as such, having no leafy appendages whatever, and has obtained from these leafy plants that ripened, he has accomplished a feat which, though it may not be of value to the public, is certainly new and interesting to the general propagator. The tendrils of the Cobæa scandens and many other strong-growing climbers will root as well as those of the Grape Vine, but require considerable time—from thirty to one hundred days, for the rooting process. In every instance I have failed to obtain a perfect plant from any of them that I have experimented with. Not so with the leaves; the Rose, Dahlia, Cobæa, Lophospermum, Passiflora, &c., will all strike at the base of the leaf and become perfect plants in one season. The leaf of the Hoya, if taken from a healthy plant, will generally make a plant with a growing shoot the first season; but sometimes if taken from a plant that is not vigorous, or from near the base, owing probably to a want of due development in the leaf itself, though it will root, it may remain in a semi-dormant condition for years without sending up a shoot. Almost everyone is acquainted with the method of propagating the Begonias, Gloxinias, &c., from leaves, which, by being gently pressed on warm sand or earth, make roots, and soon send up leaves, making many, yet perfect plants from a single leaf. These facts, though only some, perhaps none, of them are new, yet simple as they are, in the hands of a practical man go far to prove the correctness of the theory of the man of science, De Candolle, that "the leaves of plants are only a changed form of branches."

The practice of striking green cuttings of all the more common bedding plants, and also of hardwooded plants, such as the Camellia, Tea plants, &c., when these latter are struck from green cuttings, with only a leaf and small piece of stem to each cutting, is also in support of De Candolle's theory. Take away the leaf and the cutting will not strike; in most cases if the leaf is destroyed after the roots are formed the plant will die. In the hands of experienced propagators there is a wonderful power in a healthy leaf. The creed of the old-school gardeners, "an eye for a root, and an eye for a shoot," is wholly ignored by our American practice of the present time. We pay no attention whatever to an eye or bud at the base of the cutting, unless the cuttings are so short as to require it, but it is not at all necessary to its rooting. As an instance, with Verbenas, which are now required in such multitudes, we cut off all the soft part of the young shoots, and these are cut up in pieces with only a pair of leaves on the top, no bud at the bottom of the cuttings, unless required as above stated. Most other bedding plants the same.

The Camellia which, by the old English practice of striking ripened cuttings of the single red variety for stocks, required from eight to twelve months for rooting, is now accomplished in from six to eight weeks when green cuttings are used. With us the rooting of the Camellia is not confined to the single variety, but is applied to nearly all varieties, the old but beautiful Alba plena being one of the freest-rooting of all. While on the subject, I will here state what may seem strange to some, that here in the West the Alba plena on its own roots is longer-lived and more healthy than when worked on the single stock. So of that celebrated variety, Sarah Frost; it grows as strongly, if not more so, on its own roots than when inarched or grafted.

TREE-PRUNER.

Fig. 2, shows how the scissors are operated by a handle, which gives great power by the leverage, and very large limbs can be cut off with ease. *Fig.* 1, shows the saw arrangement,

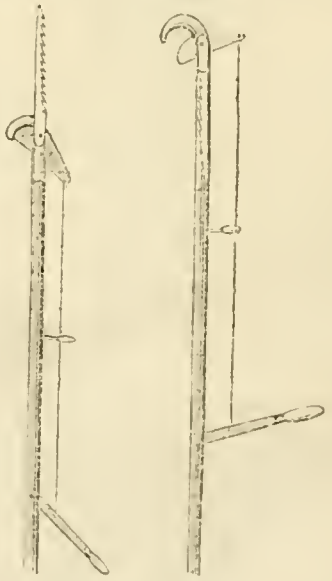


Fig. 1. Fig. 2.

which is closed in *fig.* 2, opened out and ready for use. We have had opportunities of examining many kinds of tree-pruners lately, and find this the best of all. — (*American Gardener's Monthly.*)

WILL THE WELLINGTONIA GIGANTEA THRIVE HEREAFTER?

To disparage Black Hamburgh Grapes, Green Gage Plums, Jargonelle Pears, and some other kinds of fruit, has much the appearance of horticultural treason; and if this be the case

with fruit, what will be said when that king of the forest, the Wellingtonia, is assailed? Yet it has been hinted that in this country the tree is not likely to hold the high position which at first it seemed destined to occupy.

A few years after its introduction much emulation existed amongst those who had the best specimens, and for a year or two the heights of the most promising plants were recorded in the gardening periodicals; but this practice has died out of late, so that I fear the tree is not such a favourite as it was. Be this as it may, some inquiry into the present condition of those trees which occupied so high a position about 1860 or 1862, cannot fail to elicit something; and if the result should show that one-half of these trees have succumbed to disease or climatic action, we may then conclude that the tree is not destined to effect the change in our arboricultural scenery which was expected. I myself have grave doubts of the plant's doing well for any length of time. Occupying in its native country a higher elevation by many thousands of feet than can be assigned to it here, it is quite possible the rarefied air of these upper regions may suit the plant better than the dense atmosphere of its usual sites with us. Before, however, venturing further conjectures on this question, let us inquire if there be reason to suspect it of constitutional debility, or, in other words, if many of the specimens of large size show signs of ill health or want of vigour; and should one-half of them do so, it is sufficient to create alarm if no local cause can be assigned. The vigour with which the tree grew at first, and its reputed hardiness, led many to predict for it a great future (myself amongst the number, although I never supposed that it or any other imported tree would exceed our indigenous trees in size), and I yet hope this tree will in many cases equal native ones; still we have before us the unpleasant sight of trees 25 feet high and upwards falling into an unhealthy state. If this should be the case generally, then adieu to the Wellingtonia as an ornamental tree; and as I have heard of some trees, not so high as 25 feet, having "gone off" in an unsatisfactory manner, it becomes important to publicly ask the question, "Are such cases frequent?" I hope the answer will be in the negative; but a fair public inquiry will solve the problem.

Some years ago a fine tree of this species occupied a place along with other Conifers and ornamental shrubs in the nursery ground of Messrs. Bunyard, of Maidstone. The soil was dry and fertile, overlying the limestone rock, called here Kentish rag. This tree grew vigorously for some years, until I believe it attained something over 13 feet in height, when it gradually declined. The reason assigned by some was, that its roots had been impeded in their descent by the rock. This was not a likely cause, and might not have been much noticed had not some Wellingtonias at other places fallen into a similar condition; and I recollect a well-informed nurseryman from Scotland pronouncing it a "rank impostor." This, I think, was more than was deserved, but enough was said against it to call for further inquiries, and, by way of setting an example, I may say that one of the largest plants we have here, which in the autumn of 1865 was upwards of 18 feet high, and as healthy as could be until the dry weather of last year, began to show signs of distress in the July of that year, its inner foliage dying off, and also a branch or two near the bottom. As the tree occupied a position on the lawn where its roots were not likely to encounter those of other trees, I expected that a good watering at the time, and the ample rainfall of the past winter and spring, would have restored the tree to its wonted vigour. I find, however, this is not the case, the ripening and dying off of the foliage going on more extensively this summer than last, and some branches have actually died. The leader continues healthy, and the tree has grown taller, being now upwards of 26 feet high, and, like most of its class, symmetrical in outline; but I fear it has arrived at that period when growth is slow, if not uncertain and sickly, and bearing of other trees of a similar size going wrong, I begin to fear for this. All our other trees seem healthy enough, the next largest being nearly 23 feet high, and in every respect a more robust tree than that described, and it stands in the open park with nothing higher than itself for 100 yards or more. A fence serves to protect it from cattle. The spread of the branches is nearly as many feet in diameter as the tree is high, and it is succeeding well; so, too, are all our other trees, of which we have a great number; but if the defective constitution of the plant only exhibits itself when it has attained some size, there may be time enough yet for them to go wrong. The situation of the tree which has shown signs of not thriving is a favourable one, much more so than that of a fine Thuja Lobbii not far from it, which has outstripped it in growth, being now nearly 29 feet high, and as straight as a gun barrel. This fine tree has grown nearly 10 feet within the last four years, and in the preceding five years it grew upwards of 15 feet. I am rather sorry to say it is now loaded with fruit, and that may, perhaps, check its future growth, otherwise it is a species not planted to half the extent it ought to be. Are there any specimens of this tree higher than that referred to—29 feet? Probably there are, as the situation in which it is placed is not one of the best.

Returning to the subject of Wellingtonia, I may add that a fine tree in the garden of Messrs. Hollingworth, at Maidstone, continues in the most robust health, and is now 28 feet high; and I believe a still finer one at Fairlawn, the seat of J. Ridgway, Esq., is also healthy and vigorous, being 31 feet high. These examples ought to create a hope that in the cases where a retrogression has taken place, some local cause might have affected the specimens, and let us trust it is so; but I am told of more failures than I have authority to name, and consequently feel somewhat afraid this promising tree is not so certain of future success as its friends would like. As it has been much planted of late years, and oft-times as a memorial tree, it would be well to inquire whether the condition of the largest specimens, or of those which ought to be the largest, is such as to warrant its being so generally adopted by those who plant for the next century or the one after that, as well as by those who do so simply for immediate effect. I am far from despairing of it yet, but I have heard more to its disadvantage lately than is at all agreeable.—J. Robson.

NOTES AND GLEANINGS.

We have received from Mr. Wray, of Ramsgate, a bunch of Muscat Hamburgh Grape, from a Vine grafted on the Syrian. The berries are the largest we have ever seen of that variety, and this increase in size is evidently due to the stock. The bunch is well set and large. The Muscat flavour is not well marked, though traceable, indicating that the stock also influences the flavour; but as the berries were not quite ripe, it is probable that this may yet be developed.

—— The Knight of Kerry informs us that his gardener has grown a Beechwood Melon of 12 lbs. weight, and asks if that "exceeds the usual scale." It does so most assuredly, as we never heard of one weighing anything like so much. We should be glad to be informed of any unusual weights, such as this.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Destroy weeds, for if they are now permitted to seed, great labour will be required to keep them down in the autumn. Transplant the last spring *Broccoli*, and the Grange's, Snow's, and Walcheren, sown in July for lifting to be packed in beds for the winter. *Brussels Sprouts*, *Savoys*, and Curled *Kale* may still be planted, and every spare piece of ground filled with them. *Cauliflower* and Walcheren *Broccoli* may now be sown for the spring crop. A few more *Dwarf Kidney Beans* may be tried for the last supply. *Peas*, the Marrow kinds should be topped as soon as they reach the height of their stakes. Sow *Chervil*, *American Cress*, and *Parsley* in a sheltered situation. Sow Early Horn *Carrot*, to remain in the ground for winter use. Cut herbs, if not already done, and keep the hoe moving amongst all growing crops. High cultivation amongst all green crops will amply repay any extra labour it may require. Hoeing or forking amongst growing crops, provided the roots are not injured, is highly beneficial, and will prove a sort of fallow for successive crops.

FRUIT GARDEN.

Apples and Pears should be gathered as they ripen. Early fruit, more particularly, is the better of being gathered a few days before it ripens on the trees, as in the latter case it usually turns mealy directly. Protect the finer kinds of fruit from wasps. Peaches and Nectarines should likewise be gathered a day or so before they are quite ripe.

FLOWER GARDEN.

The beauty of bedding plants is in most localities but of comparatively short duration, even in the best of seasons, and

now they are in full flower every care should be taken to render them as attractive as possible. Go over the beds frequently, and remedy any defects that may be perceptible; pegging down plants which have an inclination to grow above the others, and keeping the edges of the masses well filled up, but not allowing them to become too bulky. Where the plants are pushing freely, some considerable trouble will be involved in stopping the shoots; but this operation must be repeated with sufficient frequency to keep the plants within due limits, since nothing looks worse than their running over the edging and encroaching upon the grass. Attend to plants in vases, taking care that they do not suffer from want of water at the roots, and they may even be benefited by an occasional supply of manure water, provided it is given often and weak; too strong doses do more harm than good. All evergreens in unsuitable situations may now be moved. Where a general transplantation of evergreens is intended, the middle of next month is a suitable time for the operation. Deciduous trees and shrubs, as a matter of course, should not be transplanted until they have shed their leaves. The roots, however, may now or very soon be cut round preparatory to removal. This is a good time for removing the dead wood from shrubs, and controlling their luxuriant growth by careful pruning. Preparation must be forthwith made for next year's floral display. If a good stock of Scarlet Pelargonium cuttings has not already been put in, let it be done immediately. Proceed afterwards with the general bedding stock. Endeavour annually to get some new plants, and to vary your arrangements, that the scene may not be monotonous. With the exception of propagation, all else is mere routine for the present.

GREENHOUSE AND CONSERVATORY.

In keeping up a stock of plants there must be, besides those depended on for the principal show of bloom, younger plants coming on to supersede those which in consequence of old age or decay have to be consigned to the rubbish heap. I previously adverted to the rapidity with which even difficult plants may be grown. Any plants, therefore, in pots which it is desirable should be grown quickly, and to which has been allowed a slight rest after their spring growth, may now be shifted according to their habits and condition. It will not, however, be advisable to give them so large a shift at this season as might have been ventured upon in spring, as whatever wood is made after the present shift must be ripened, unless in the case of such free-flowering plants as bloom on the current year's growing wood. As this shift will have to carry the plant through the winter months, the drainage of the pots should be ample. After a few days an open situation should be selected for the newly potted plants, that the new growth may be made under conditions favourable for its maturation. The greatest care must be taken where valuable tender-rooted plants are out of doors lest heavy rains should damage their roots, and no time should be lost in placing such under the cover of glass. The hardier plants left out should be examined frequently, to see that the water passes freely through the pots. Hyacinths and other Dutch bulbs are now arriving. Those for early forcing should be procured and potted, and even where that is not intended there will be a better chance of obtaining good bulbs early than late, when all the best are bought up. Van Thol Tulips for forcing may be potted early next month; place them on coal ashes, and cover them as previously recommended for Hyacinths, removing them early in November into heat; the bulk need not be potted until late in October, and a last batch of Tournesol or Rex Rubrorum towards the end of November. Orange trees in pots, to be forced for winter decoration, should now be fully exposed in order to well ripen their wood. The Mandarin, being a free grower with a dwarf bushy habit, small foliage, and a most abundant bloomer, is probably the best for this purpose; but any of the varieties flower profusely provided the wood is thoroughly ripened in autumn. These and Daphnes, should be grown largely where sweet-scented flowers are in demand for winter. Take care also to have plenty of Salvia splendens, which is an exceedingly gay plant, and very useful for mixing among Chrysanthemums in the show house.

STOVE.

A number of Orchids will by this time have made their growth, and may be removed gradually to a drier and cooler atmosphere. Those which continue growing must be syringed two or three times a-day, and a humid atmosphere kept up by watering every vacant part of the interior; at the same time plants on blocks or suspended in baskets should be frequently soaked, so as to thoroughly moisten the growing material.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Forked over the ground among Cabbages, Coleworts, and more especially the Cauliflower plants recently turned-out. Watering after planting is a great help until the plants are established; yet when rapid and healthy growth among vegetables is desirable, we do not attach sufficient importance to surface-stirring the soil either by hoe or fork—the latter being the better in all cases where weeds are not troublesome. To Mr. James Barnes, of Bicton, the country is especially indebted for drawing attention to this work, which was too often sadly neglected. We turned-out a piece of Cauliflower after Peas, Beans, &c., with balls, watering at planting, and on an average each plant showed only one decaying leaf; we gave the plants a little soot water, and that caused them to hold their own, and grow in the warmest days, though we did not think they were growing fast enough. A few showers had rather crusted the surface of the well-pulverised soil, and the day after the watering the soil between the plants was forked over 2 or 3 inches deep, and the mere access to air thus given has acted like a charm. For several days you might almost have thought you saw the plants growing. We mention this fact in no spirit of egotism, but merely for impressing on the holders of small gardens the importance of surface-stirring among all growing crops, not only for keeping them clear of weeds, but of greatly adding to rapidity and luxuriance of growth. Some time ago we mentioned the importance of mulching with short grass, chiefly for keeping excessive heat out and moisture in; but when the mulching is left on for a long time and is at all thick, it excludes the air too much, and therefore requires to be broken and turned frequently, when the full benefit is obtained. We have often been forced to mulch Peas in a dry hot season, but if such mulching caked on the surface like a drugget, the Peas never succeeded so well as when it was frequently broken, so that the air could have free entrance whilst the force of the sun's rays was excluded.

With water at command, and the surface of the soil loose, and frequently stirred, we would not trouble much with mulching. It is a great help when the other means are limited; but, like many a good thing, it is often misused—for instance, when applied so early as to keep out the genial heat of spring and early summer, or allowed to be so close in summer as to keep out free atmospheric influence. Many a time have we seen watering resorted to, when a surface-stirring would have been far more effective. The work, too, is much lighter than watering.

Took up our earliest Horn Carrots, as they were full-grown and clean, for if left longer in the ground they would be apt to throw out roots from the sides, and perhaps worms would disfigure them. One reason, besides, for lifting them was, that we were much in want of a good piece of ground for sowing winter Onions. Our spring-sown main crops of Onions are still growing so fast that we are averse to disturbing them as yet. We have no doubt that Carrots often remain too long in the ground, and thus those otherwise sound are often disfigured. Hoed the last-sown crop, which is still small. This will keep us in small Carrots until we have a supply of the forced Horns and the small Dutch in spring. Sowed our third piece of winter Spinach, and if the weather be fine we shall sow a few rows in September. Run the hoe between the rows of the first sown. We generally sow these crops rather thinly, as that saves the trouble of thinning. When the seeds are sown thinly, however, it is advisable to red-lead them, as there is no seed to which mice are more partial. In a seed-room they will make chaff of Spinach seed before they touch Peas or Beans.

Peas.—There is in gardening always something to puzzle even a strict observer. We sowed some rows of Dickson's Favourite Pea to come in late. Of these some look most promising, as green and flourishing as possible, and others are already becoming mildewed at the bottom and looking badly. As far as we know, the ground for all was much alike, the treatment afterwards much the same, and yet the results are so different. There are many simple things that bid defiance to our knowledge to account for them. Why, under similar circumstances, should one row of the same kind of Pea be so healthy and another spotted with mildew? A little sulphur and lime dusted on the mildew will do good, especially if rain,

or the garden engine, follow a couple of days afterwards. Mildew will make its appearance in autumn, when there is a moist atmosphere and a rather dry soil, and when the reverse is the case, when there is a moist soil at the roots and a cloudy cold air around the tops. The roots dry, with a free evaporation from the foliage, and moisture at the roots with a partial stoppage of perspiration from cloudy showery weather, are very likely to produce mildew.

Celery.—Finished earthing-up to its full height the dwarf Celery we intend for use early in September. Our next bed of the Incomparable White is tolerably strong, but shorter than usual. One advantage of this kind is that if you grow it from 15 to 18 inches high, you can send it to table 12 or 15 inches in length. We have had fine specimens for the salad-bowl from plants not more than 16 inches in height—a matter of importance for the holders of small gardens. We generally grow ours in beds, three or four rows across. Such dwarf kinds, it will be observed, need but little earthing-up, and as we tie every plant with a slight strand of matting, there is no difficulty whatever in the earthing-up, with or without boards placed across between the rows. The bed referred to, we have had thoroughly cleaned at the bottom, removing all suckers with the point of a knife, but without injuring the leaves or leafstalks of the main plant. All the dwarf whites we have tried are more apt to stole at the bottom in this way than the taller-growing whites, or even the general run of reds, though all do it at times more or less. These plants being of a good size when planted out, were looked over then, but still a few more suckers will be likely to show themselves, and if left untouched, especially when the planting is rather close, will so far detract from the strength of the main plant or head. Sometimes in early Celery we have left the suckers, and then on taking up for salads the smaller blanched suckers proved useful for soups and stews. We have thus had a good stick for table in the centre, and from four to half a dozen small blanched sticks or shoots round it. In general, however, the best Celery is obtained by nipping out all the suckers that appear, so that the strength of the roots shall be thrown into the one main plant or stem. After planting, it is of little use removing the suckers until the plants attain a good size.

Having thus dressed the bed, we proceeded to tie the plants 8 or 10 inches from the ground-level. In tall sorts, as in a red bed, the strands of matting are placed higher according to the height of the plant. This tying encourages the central leaves of the plant to rise, and even causes blanching to commence at the centre. There is no nicety required in this tying, except to be careful to tie loosely enough, so as to leave plenty of room for the plant to expand in growth. Even men accustomed to the work are apt to tie the plant too tightly. All that is wanted is to keep it together, but to give plenty of room for expansion. The object of the tying, besides what is stated above, is to keep the heart free, and secure from earth finding its way there, as it often causes the centre to rot. The disadvantages of tight-tying are that the band is apt to cut the outside footstalks of leaves, and the heart instead of rising freely is forced to turn back on itself or protrude itself at the sides.

The removal of the suckers, and tying, involved trampling the surface of the bed; therefore, when tying was finished, the points of a light fork were used on the surface; and as the growth was not too strong, as well as to drive away worms, &c., a little soot was strewn along the bed, and a good watering was given. In a week or so the most careless tyers will see the importance of loose tying, as generally with such encouragement the growth is very rapid, after removing the suckers. This bed will be earthed-up at one operation, or at most in two—generally at once—in pieces as we expect it to be wanted, say three weeks beforehand When long tied, less time will do. For instance, in this large bed, most likely eight days or so after giving a good watering, we shall earth-up at once 4 or 5 yards of it, following with a piece more every eight or ten days, until the bed be finished, and so on with the succession beds. By doing this a bolted or run head of early Celery is with us a rarity. We cannot say what may be the case this season, for our young Celery had scarcely justice as respects moisture; but for a number of years we had a single bolted head of early Celery when we used to have it much earlier than now—that is, fit for use in the beginning of July. Of course when to be used so early it had to receive a considerable amount of artificial heat; in fact, the trench that ultimately received it was a mild hotbed at bottom.

We must excuse ourselves for entering into the above details, by stating that numerous subscribers wish to know all about our mode of earthing-up, as so different from that of all other writers, except those who have evidently copied from us, and who uniformly recommend, in earthing-up Celery, to give only a few inches at a time. Now, as frequently stated, we have no objection to this plan late in autumn, when the sun's force is declining; but we have no hesitation in stating that bit-by-bit earthing-up in July and August, and even the first part of a sunny September, is the chief cause why, when early Celery is taken up, there are so many bolted heads, of no use for the salad bowl, or as an accompaniment to cheese. Our practice rests on the simple fact, that the Celery is a ditch-side plant; that to keep it growing freely it must have moisture to meet the free evaporation from its foliage on a sunny day; that to make it throw up its flower-stem freely, the best mode to adopt is to keep it dry at the roots, and this is what is constantly done by the bit-by-bit earthing-up system, as, supposing you give a good watering at first when you add 2 inches of soil, and 3 or more inches over it at earthing-up, no rain will reach the roots, and the evaporation from the foliage still goes on; so that in lifting the Celery it will not be uncommon to find the bulk of the roots surrounded by soil which is dust-dry. Can we wonder that the plants in self-defence throw up their flower-stems?

Before leaving the subject we would advert to a few correlative matters. Our tying-up acts as slight earthing-up would do, but it leaves the roots open to natural or artificial moisture. Again, we have grown early Celery to an immense size; but except for a particular purpose, we now look on all such huge heads as labour misapplied, or even worse; first, because from these huge plants, like a man's leg, the head that was obtained for table was not at all proportionate in size to that obtained from our compact moderate-sized plants in a bed; and secondly, because these huge plants, if not protected from wet, were a great loss and disappointment, as in rainy weather the wet found its way down to the heart of the plant, and unable to find its way out, it remained there as in a cup, became foul like other stagnant water, and finally scarred or caused the valuable part of the Celery to decay. We have taken up in September the large heads referred to, and found fully one-half only fit for the rubbish heap. For economy in every way, middle-sized heads are best, and they will be sweetest when the manure used is sweet and well decomposed. In earthing-up Celery for early use, as on our plan it will never stand long nothing is better than the common soil. For late Celery, and that which is to remain through the winter, and especially in heavy soils, the Celery will keep better if surrounded with ashes, sand, moss, or anything that will keep slugs and worms away, and allow superfluous moisture to pass off. An inch of coal or furnace ashes round the plants will be of great advantage in keeping them sound.

Insects and Popular Prejudice.—We shall refer to previous weeks for other departments, and say a word on the prevalence of insects, and the wonderful quantity this season of the Coccinella, called familiarly the lady bird, lady cow, &c., too generally known from its prettily spotted outside covering to need particular description. We lately stated that though free from the infliction in the garden, the neighbouring fields and gardens had suffered severely as respects Peas and Beans from different kinds of fly. Some have brought and sent to us lots of the pretty lady bird, which they said quite covered their Beans and were ruining them, and that the more they killed the more numerous they seemed to be. The innocent, pretty, lady bird was blamed for the very evil which it was doing its best to mitigate or remove. Our continental neighbours are more intelligent, for they encourage these pretty insects to harbour in their gardens. We are not so sure that the lady birds in their perfect state devour in great quantity the different kind of aphides that infest our vegetables and trees, though when we have shut up such insects along with leaves of Plums and Beans, we found the leaves clean, and the insects with which they were encrusted out of sight, not one remaining. In the larva state, the lady bird devours aphides of all kinds greedily, and the chief work it performs now on all vegetation encrusted with fly, is to deposit eggs where the larvæ will be likely to find plenty of food. Never in our experience did we know the lady birds appear so early and so plentifully as this season. On banks and warm pastures, we saw them plentifully in March and April. Now in garden, field, and pasture, they seem crowding everywhere, and so thickly do they swarm in some places of public resort, that ladies cannot walk, we are told, without

crushing them. We have seen great numbers of them, little clouds in fact, on the wing, and that is not very common. Sportsmen say that it will be a rare time for pheasants, which are fond of them. They are friends to the gardener, and if some entomologist would enlighten us as to the time they generally take to pass through their various transformations, it would be very interesting and profitable, and help to do away with much ignorance and misconception. We have several times instituted experiments to satisfy ourselves, but chiefly from accidents our experiments were not fairly carried out so as to be trustworthy.—R. F.

COVENT GARDEN MARKET.—August 25.

Our market is well supplied, and business has been somewhat better, but no advance in prices can be maintained. Pine Apples, Grapes, Peaches, and Nectarines are sufficient for the trade. The Potato trade is heavy; there are large stocks on hand, generally free from disease.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	3	0	6	0	Nectarines ..... doz.	6	0	10	0
Cherries ..... lb.	0	6	1	0	Oranges 100	10	0	14	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	8	0	16	0
Currants .... ½ sieve	4	0	4	6	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	5	0	6	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	4	0	8	0	Plums ..... ½ sieve	3	6	5	0
Filberts ..... lb.	1	0	0	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	0	0	0	0	Raspberries ..... lb.	0	6	1	0
Gooseberries .. quart	0	6	1	0	Strawberries .... lb.	0	0	0	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts ..... bushel	10	0	15	0
Lemons 100	8	0	12	0	do. 100	1	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Kidney ½ sieve	2	6	4	0	Mushrooms .... pottle	3	0	0	0
Beet, Red ..... doz.	2	0	3	0	Mustd.& Cress, punnet	0	2	0	3
Broccoli ..... bundle	0	0	0	0	Onions..doz. bunches	6	0	0	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	3	0	0	6
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	2	0	2	6	Peas ..... quart	0	6	1	6
Carrots ..... bunch	0	3	1	0	Potatoes ..... bushel	2	6	4	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	5	0	6	0
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb ..... bundle	0	0	0	6
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	3	0	0	Tomatoes ..... doz.	1	6	3	0
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	6
Horseradish .. bundle	3	0	5	0	Veget. Marrows .. doz.	1	0	2	8

TRADE CATALOGUES RECEIVED.

William Paul, Waltham Cross, London, N.—*Bulb Catalogue*, 1869.

James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, S.W.—*Catalogue of Hyacinths and other Bulbous Roots.*

B. S. Williams, Victoria and Paradise Nurseries.—*General Bulb Catalogue, and Catalogue of Fruit Trees, Roses, &c.*

John Scott, Merriott Nurseries, Crewkerne, Somerset. — *Catalogue of Flower Roots.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*J. Carrington*).—The book you name is "Thomson's Handy Book of the Flower Garden," published by Blackwood & Sons. (*Subscriber*).—There is no such work, but you will find the subject treated on in McIntosh's "Book of the Garden," and Thompson's "Gardener's Assistant." (*G. W.*).—"The Garden Manual," which may be had post free from our office, for 1*s.* 8*d.*

Rendle's Patent Plant Protectors (*Rev. E. H.; E C. S.*).—Mr. Rendle's address is 68, Welbeck Street. The best book for your purpose is the "Cottage Gardeners' Dictionary."

Twin Cucumber (*Cucumber*).—This is not new, though unusual. It is caused by the union of two ovaries.

Cucumber Diseased (*Subscriber, J. E.*).—We can offer you no remedy for the disease. It has baffled all the most experienced cultivators. Do you not think your spring water is too cold, and contains some mineral substance prejudicial to the plant?

Vicomtesse Héricart de Thury Strawberry (*F. H. G.*).—It was advertised in our number for August 5th. We cannot depart from our rule of not recommending one dealer in preference to another. Nurserymen who have a stock of this variety should advertise.

Alpine Strawberries (*C. W.*).—Blanche d'Orleans, white, larger than the common White Alpine; Galande, dark red, of agreeable flavour, an abundant bearer; and Bruno de Gilbert, almost black, very abundant-bearing in autumn. Alpine Strawberry runners can be obtained of most of the principal nurserymen. September is a good time to plant for summer bearing, and March for autumn. We prefer raising plants from seed, sowing in March in a shallow box, placed near the glass in a frame, and hardening the plants well off previous to planting them out. We plant them 1 foot apart on an east border. Plants from seed are of freer growth, and produce abundantly.

Wintering Coleuses (*J. W. C.*).—They require to be kept in rather small pots in a house, where the temperature does not fall below 40°, but is generally 45°. The atmosphere should be dry, and no more water ought to be given than is required to keep them fresh; indeed, the drier they are the safer they will be in winter. If they are in the open ground they should be taken up before frost, placed in small pots, just large enough to hold the roots well, and set in a light and airy position. The soil ought to be sandy and not rich; light loam with a little leaf mould is most suitable. You should write to Mr. Looker for the information you require.

Bougainvillea lateritia (*T. C.*).—When the plant begins to grow it should be encouraged with an abundance of moisture, and have free ventilation. The shoots must be trained near the glass. This treatment ought to begin in March, and should be continued until August, when the atmosphere should be kept dry, and no more water given at the root than is needed to keep the leaves fresh, though if they flag a little under powerful sun no harm will result. The temperature should be proportionate to the dryness, and fully as high as when the plant was making growth. From March to October it should have a stove heat; from October to March a temperature of not less than 45° in severe frost, and generally one ranging from 45° to 50°.

Digitalis lutea (*Idem*).—We are not aware that it is indigenous to this country. It is a native of France. Seed may be had of the principal seedsmen.

Cool-house Orchids (*Idem*).—The Orchids, now that the Grapes are cut, and you wish to throw the house open, need not be removed. They will be all the better of the increased ventilation and dryness. We presume that it is not intended to remove the lights, that the plants will be secure from heavy rains, and that in very moist, cold weather, gentle fire heat will be given to dissipate damp.

Blanching Celery in Sawdust (*Amateur*).—You may blanch Celery in anything that will exclude light. See "Doings of Last Week."

Celery Hollow (*Amateur*).—The chief causes of Celery becoming hollow are poor soil and a deficiency of moisture during dry, hot weather, and not unfrequently sudden checks given in the early stages of growth, in pricking-off, transplanting, &c. Cole's Defiance Dwarf Red is an excellent sort. Dickson's Manchester Champion Red, and Champion White, an early sort of large size, are good for growing in quantity.

Prizes for Bouquets (*Evergreen*).—So soon as you prove that there was any injustice done, we shall not be backward in helping to expose it. Your insinuations need no reply from us.

Propagating Hollyhocks (*T.*).—As there are no shoots from the base, and only the flowering stems, and as the sort is desirable, we would cut the stems off to within a few inches of their base, and make cuttings of them. For each cutting two joints will be sufficient, and the stem must be cut across below a joint. Remove the lowest leaf, and half of the upper one, and insert the cuttings round the sides of pots, well drained, and filled with moist sandy loam. The soil should be firmly pressed round the base of the cuttings, then fill up the holes with sand. If the joints are long, put in the shoots as eyes with but one joint, cutting in a sloping direction about half an inch below the eye, and about an inch above it, and put into the soil so that the eye will be covered about half an inch with fine soil. No water should be given, as the soil ought to be moist before the cuttings are inserted. Plunge the pots to within half an inch of the rim in a hotbed of from 70° to 75°, using sawdust or ashes for plunging them in, keep closely shaded, and admit no air, excepting a little for an hour in the morning, to carry off any accumulation of steam. In six weeks the cuttings will begin to grow, and should have a little water, without, however, wetting the leaves. When rooted, pot off singly in small pots, and place in a cold frame, keeping it close and shaded for ten days or a fortnight; then gradually admit air, and remove the shade by degrees. Water should be given as required, and abundance of air. No time should be lost in putting in cuttings, so as to have them rooted before winter. The old plant should be taken up after flowering, potted, and wintered in a frame. It may produce shoots suitable for cuttings in spring, the tops only being employed.

Leucojum vernum Sowing (*M. D.*).—The seeds should be sown now in light sandy soil, and covered with fine soil about a quarter of an inch deep. The seeds may also be kept through the winter in dry sand in a cool dry place, but are best sown as soon as ripe, giving a light mulching of partially rotten leaves before severe weather.

Picotee Pipings (*A. E. F. C.*).—You should continue the same treatment until the cuttings or pipings begin to grow. This you will know by the fresh leaves in the centre of the cuttings becoming longer than the old leaves. When this takes place the pipings have rooted, or have formed a callosity which will root. More air should be given gradually by day as well as by night, and the shading should be withdrawn by degrees. The plants will be fit to pot off singly in about six weeks from the time of putting in, by which time they should be well hardened-off, exposing them fully at all times, except during heavy rains. Give shade from bright sun for a few days after potting, and afterwards expose them freely to the air, but protect from heavy rains and severe frost. In mild

weather, when it is necessary to keep on the lights in order to throw off heavy rain, these should be raised at back; in frosty weather keep them close, and cover them with mats at night. Avoid having the soil very wet in winter. Give an abundance of air. Plant out in March.

Climber for North-west Aspect (*Summers Ville*).—The fastest-growing climber for a north-western aspect is Virginian Creeper. If you wish for a flowering plant, a Dundee Rambler Rose, or Cratægus pyracantha may suit you. Rægner's Ivy, with very fine heart-shaped leaves, is also a good evergreen for the purpose.

Covering a Wall with Ivy (*Idem*).—The best plan is to procure some good strong plants in pots, which may be had in most nurseries; plant them in rich sandy soil, and keep them well watered in dry weather when the plants are growing. Secure the shoots to the wall, spreading them out so as to cover every part. If you mix seeds with the mortar they will not grow. Ivy is not an epiphyte, but has very extensive roots, and to succeed well requires a rich open soil.

Rose Cuttings (*Q. Q.*).—We would at once plant out in a carefully-prepared bed the Rose cuttings put in last October and March. You will gain a year by planting now. The plants will be well rooted before winter, and prepared for a good growth and bloom next year. Take up carefully, and after planting water, if the weather prove dry.

Roses against a Fence (*Idem*).—The Hybrid Perpetuals would be the better of being unnailed, and allowed to grow at will next year; but we would remove them this autumn, and plant them in a cooler position. The Perpetuals like open, not hot, dry situations. We think the Tea-scented Roses you name would not succeed planted on the north side, and their shoots trained down the southern side of the wall. The wood would not ripen, and the shoots would be damaged, if not destroyed in severe weather, from being unripe. They should be planted on the south side, and are well worthy of such a position, and far more suitable than the Hybrid Perpetuals.

Tricolor Pelargoniums (*Idem*).—The colours of the leaves would be improved if the lights were put on, air admitted freely day and night, the lights being drawn off on fine days, but the plants protected from rain.

Pelargonium not Flowering (*A. G.*).—Your Pelargonium must be of very delicate constitution and languid growth. The only advice we can give you is to stimulate it by enriching the soil.

Seedling Lobelia and Pansy (*Peter*).—The flowers when they reached us were quite withered. The Pansy was very dark, but was too shrivelled for any opinion to be formed as to its merit. If you have any subjects which you wish to submit to the Floral Committee of the Royal Horticultural Society, you may send them, carriage paid, to the Secretary of the Committee, Royal Horticultural Society, South Kensington, and they must arrive there before half-past 10 A.M., on the day on which the Committee meets. It is not necessary to attend personally.

Desfontainia spinosa (*J. W. W.*).—It succeeds in the open ground, and would no doubt thrive if you planted it in a sheltered border; but we would not advise its being planted in the Rhododendron bed, nor yet along with the Camellias, for they require a more sandy soil than Rhododendrons—besides, they flower at different times, and are different in foliage and habit. The Desfontainia is quite hardy, and a fine Holly-like shrub, with bell-shaped red flowers.

Planting Camellias Out of Doors (*Idem*).—They would no doubt thrive in the centre of Ireland, but for reasons above mentioned we would not plant them in the Rhododendron bed, but prepare a bed of light fibrous loam, and one part sandy peat, making it 2 feet deep, and providing drainage. If the ground be low, the bed should be raised above the ground level, but not very much, as the plants may suffer from drought in summer. Alba plena, white; Alexina, white, striped and blotched with carmine; Donkelaarii, crimson mottled with white; Lecana superba, bright crimson; Storyi, rosy pink; and Valtevaredo, rose, are good sorts. Camellias make but little progress for a year or two after planting out. They seem to require time.

Kalmia latifolia not Flowering (*Idem*).—The Kalmias are probably grown in too moist soil; too boggy, and not sufficiently sandy. Take them up this autumn, and plant in sandy peat. That and the change of soil, from checking the vigour of the plants, will tend to insure bloom. Water freely when the plants are making fresh growth.

Old Tan (*W. H. Gullingford*).—Old tan which is so thoroughly decomposed as yours, is the same as leaf mould.

Syringing Vines after Setting (*W. K.*).—Syringing Vines after the setting of the fruit is not recommended, and for this reason—that the leaves, by maintaining a nice moist temperature in the house, may be kept equally clear of insects without water, and nearly all water, except rain water, is impure. Water often contains much chalk, which dirties and spots the berries, and very much disfigures their appearance.

Ventilating Vineries (*Idem*).—We strongly recommend abundance of air at all times, day and night, in vineries whilst the fruit is ripening, raising the temperature, if necessary, by the aid of fire heat. Grapes, above all fruits, require a brisk bracing atmosphere surrounding them whilst ripening, in order to give flavour and colour to the fruits.

Grapes Scalded (*F. H.*).—Keep the house cool, give abundance of air during the day, and keep down moisture at night.

Vines (*John Anderson*).—Graft the Muscat of Alexandria, by all means, with the kinds you require.

Rhus Cotinus Branch Broken and Propagation (*J. H. S.*).—Supporting the broken branch with a prop is good, also the tying with tar cord, but we should have placed a little moss between the bark and the cord to keep the latter from injuring the bark. The cord ought to have been untwisted, and should have been of the softest description, so as to equalise the pressure. The prop should be firm, and the branch fastened to it so as to secure it from wind. In addition to the clay poultice, which we presume you will mix with cow dung to keep it from cracking, we advise you to place a little moss over the clay to keep it moist and prevent its cracking. You will thus preserve the branch if it is not splintered, and the bark on the under side of the branch not broken. You will know by this time whether it will live or not, for if the sap cannot rise the foliage will droop. If this continue fresh all will be well. It is propagated by layers in autumn, or by suckers, which old plants often produce plentifully at a considerable distance from the stem. They should be detached in autumn, and planted in sandy soil in a warm situation.

Skeletonising Leaves (*E. S. S.*).—You will find all the information you require in an article in No. 375, June 4th, 1868.

Club Root in Cauliflowers (*Constant Reader*).—It is most frequent in dry seasons, and in ground where the Cabbage tribe has been often grown before. Sometimes the insect will attack one row, and the next will escape. Frequently change the positions of the crops; dig, trench, and expose the soil well to frost; lime it, or point-in a dressing of soot. As regards the plants, transplant them frequently, rejecting all that exhibit protuberances on the roots. A little wood ashes or soot dropped into the holes at planting, may also prove beneficial as a preventive. But when once a plant is fairly affected the best thing to do is to burn it; even if the protuberance is removed the plant rarely comes to much.

Slow-combustion Boiler (*G. Brown*).—We cannot tell what patent slow-combustion boiler you refer to, and, therefore, cannot enlighten you; but with a close-fitting ash-pit door, and a good damper in the chimney, we should have no difficulty in making any boiler in use a slow-combustion one.

Ventilating a Greenhouse (*West Cumberland*).—We do not see why in your case you should not have a table for plants at the end of the house, likewise one along the front above the soil, one at the other end, also one in the centre of the house. We think that the two ventilators in the roof in such a small house, and with front sashes opening, ought to do well, but to make sure, you might have a small ventilator at each end of the house, just under the apex of the angle formed there. In a house longer than yours, we have only ventilators in the two angles at the end, not more than a foot square, but we leave them open night and day in summer. You did right in watering your cuttings well before placing them in the frame. It is well to let the foliage become dry before shutting up. In dull weather they will need little more watering, but in a sunny day a skiff from the syringe, or a little shading will be necessary. There seems to be no reason why the Vines should not grow.

Vinery, Peach House, and Plant House Combined (*Analysis*).—It will be no drawback whatever that part of your Vine and Peach border should be inside the house; but bear in mind that your back wall will be of little use for Peaches, if you cover the roof with Vines in front. If strong rods are spur-pruned, and these are from 5 to 6 feet apart, the Peaches will do pretty well. For the same reason we would do away with the stage for plants in the centre, and be satisfied with a flat stage or table, so as not to shade the back wall. For neatness, we would place the pipes underneath the path. For effect we would place them on the top of the inside Vine border in front.

Heating a Greenhouse and Forcing Pit (*E. S. S.*).—Your piping ought to be sufficient to keep out frost from the greenhouse. It is probable that the Melons and Cucumbers suffer a little from not having quite enough surface heat in the confined space of a frame. Water will circulate even on the level, but there is no question in a length of 40 feet, if the flow-pipe rose from one end to the other, from 3 to 6 or 9 inches, and had an air pipe at the highest part, and then fell to the boiler in the same ratio, that the circulation would be better. You say you have not much of a rise to the extreme end in the greenhouse. If you have a rise at all, have you an air pipe at the highest point? If not, insert one at once. A small gas pipe will do, fixing one end in the pipe, so as to reach the water, and the other end a few feet higher outside the house. We fancy you must not have an air pipe, as with the smallest rise—say 2 or 3 inches, your pipes ought to heat rapidly with such a fire as you speak of. See to the air pipe which prevents air being confined between two bodies of water, and so becoming as impassable as a solid rock, before you sink your boiler. No doubt the sinking the boiler a couple of feet would increase the circulation, if you could do so conveniently. In all boilers, the nearer the top the flow-pipe is the better. Yours seems a long way from the top—not, perhaps, a matter of so much consequence in a conical boiler, but still of consequence, as the hottest water will always be at the top. One cause of dissatisfaction in your case, is having a short upright chimney from the boiler, and you say nothing of a damper. In this case, without a damper to throw back the heat round the boiler, we should say that more than one-half of the heat from your fuel goes up the chimney. We thus approve of the flue once round the house from the fireplace, but for a chimney we would be content to take it across the end and back, and other end to *f*. As you have pipes in front, we would place the flow-flue at back. We approve of the arrangement for Cucumbers, &c.

Erecting a Greenhouse (*James Walton*).—If the site for the greenhouse is in the line of street or road, we are of opinion you will have to give notice to the surveyor; but if not, and the greenhouse is intended to stand away in back ground, and free from other buildings, then we are of opinion you are not required to give notice. (*Sedent*).—It will be much the safest and most satisfactory both for your landlady and yourself to have a memorandum of an agreement. Then no misunderstanding can be pleaded. It is the curse of Ireland that the small tenants have merely verbal agreements, for these are not binding on either party.

Heating a Stove, Greenhouse, and Late Vinery (*Amateur*).—We cannot so well advise you, because you do not say how you mean to arrange your house. A span-roofed house will require from one-third more to twice the amount of piping needed for a lean-to of the same size, in proportion to the surface of glass exposed. A neat way of heating your range of three houses, would be to have a flow and return pipe for the 60-feet length, and that if desirable could be sunk out of sight beneath the path. As the first 20 feet next the boiler would be a stove, we would have valves so as to make the circulation complete there without going farther into the cold houses, unless when necessary. From these mains you could take what pipes were necessary. To make yourself secure, if the height at the apex is from 12 to 15 feet, you would need in the stove from 140 to 160 feet of 4-inch piping, and in each of the other places from 80 feet to 120 feet. One of the neatest modes of arranging such houses, would be to have a pathway all round, a platform at the sides, and a platform in the centre, and the piping beneath an open iron pathway.

Heating a Greenhouse (*Probo*).—You should use a 4-inch pipe, as you cannot go round the house. You cannot have anything better than a small saddle boiler for the purpose; but see that it is properly set, and is not nearer the furnace door than 15 inches.

Rape Dust (*T. J.*).—Any seed and manure merchant in any country town can supply you with Rape dust.

Pine Apples and Melons at Taunton Deane Show.—Mr. Hepper, gardener to J. H. Walmsley, Esq., The Elms, Acton, writes that the Pine Apples which Mr. Wills praises so highly, were shown by him, and not by Mr. Jarvis, Lord Bridport's gardener; also that he was second for the best-flavoured Melon.

Ready Penny Potato (*S. A. M.*).—We do not know this kind, nor its properties. The "Household Encyclopædia" was published by Kent and Co., Paternoster Row.

Stove for Conservatory (*W. J. H.*).—There is no stove we can recommend that would answer the purpose you require it for, unless it be a gas stove, and then you must have a pipe to carry off the fumes.

Forcing House (*A Subscriber*).—Do not use galvanised iron; you will lose heat. Use wooden boards with sawdust between them, which are far preferable.

Ants, to Destroy (*Sutton*).—Mix arsenic with treacle, spread it thinly on pieces of glass or earthenware, and place it near the nest, and you will soon be rid of them.

Insects in Herbaria (*D H.*).—A weak solution of corrosive sublimate applied over the specimens with a camel's-hair brush, will destroy the insects and prevent attacks from them, while it does not injure the colour of the flowers and leaves.

Water Weed (*I H. S.*).—Conferva reticulata.

Names of Fruits (*Inquirer*).—Your Plum is Drap d'Or. Our readers should always send a young shoot and leaves with the fruit of Plums, Peaches, and Nectarines.

Names of Plants (*F. J., Ireland*).—Your plant is the Clover Dodder, Cuscuta trifolii. (*Tertia*).—Your plant is Centranthus ruber, which has already been figured in the "Wild Flowers." Many thanks for your offer. (*H. D.*).—Rhamnus Frangula. (*M. B.*).—Eranthemum sanguinolentum. Try the Soldanella in sand. (*Felices Amati*).—1, Pteris cretica; 2, Adiantum cultratum; 3, Doodia lunulata; 4, Adiantum flabelliforme. (*Inquirer*).—Gnaphalium lanatum. (*Thomas*)—1, Funkia ovata; 2, Lastrea Filix-mas; 3, Spiræa ulmaria variegata; 4, Hyssopus officinalis. (*G. S.*).—We cannot name your Campanula from the scrap sent. (*J. D.*).—1, Centranthus ruber; 2, Rhus Cotinus.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 24th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 18	30.280	30.235	73	47	60	59	N.W.	.00	Fine and clear; very fine; foggy at night.
Thurs. 19	30.267	30.159	65	43	61	59	N.E.	.00	Cloudy but fine; overcast; clear and fine.
Fri.... 20	30.238	30.183	71	37	61	59	N	.00	Fine, cloudy; very fine; clear and fine at night.
Sat.... 21	30.192	30.183	76	42	60	58	S.W.	.00	Very fine; cloudy and fine; foggy at night
Sun... 22	30.236	30.208	78	55	61	58	N.	.00	Foggy; exceedingly fine; overcast.
Mon... 23	30.235	30.155	77	41	62	59	S.	.00	Densely overcast; very fine; clear and fine.
Tues.. 24	30.164	30.112	79	40	63	59	W.	.00	Very fine; exceedingly fine; clear and fine.
Mean..	30.230	30.176	74.14	45.71	61.14	58.71	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

WHITWORTH AND ROCHDALE POULTRY SHOW.

The Show of the 18th inst. proved the most successful of any yet held by this Society, the entries embracing first-rate specimens from almost every principal poultry and Pigeon breeder in the kingdom. The day was extremely favourable for an out-of-door show, being fine and sunny without oppressive heat, and we are told the receipts at the gates were unusually large.

The *Spanish* classes were remarkably good, and Mr. Brierley's cup pen was a leading feature of the Show. *Cochins* were exceedingly good, but many of the adults were in deep moult, consequently Mr. Sidgwick's excellent pen of chickens were the cup-winners. The Dark *Brahmas* were first-rate, but the Light-coloured ones did not show to advantage. The *Game* classes, though not heavy as to numbers, were of high quality, and the same remark applies with equal force to the *Polands* and *Hamburghs* generally. The Black Hamburghs were very superior. The *Dorking* and *Bantam* classes were scantily filled, and want of condition in the majority of pens was very evident. The *Turkeys*, and the whole of the water fowls, were of the highest character.

The entries of *Pigeons* were unusually large and the birds of first-rate quality.

(*From a Correspondent.*)

The *Rabbits*, divided into three classes, numbered six entries of Lop-eared, the beautiful doe of Mr. A. H. Easten carrying off the first prize; and that shown by Mr. C. Gravil was also a good specimen, though not fortunate enough to come off with honours; yet I am inclined to think she deserved a better position, more especially when the test was for the best Rabbit, not for length of ear, as is at times stated in the lists of prizes. The second prize was given to a well-marked animal from Mr. J. T. Sykes, but smaller than the others named. The Silver-Greys came next, and I regret to say that some of the specimens sent appeared to have "ventured out too soon," earlier than the state of their health would warrant them; yet some good specimens were shown among the seven entries. I should here like to ask the question as to the true shade of the Silver-Grey, for the most beautifully silvered had not the good fortune to carry off the prizes, and some excellent ones were shown. The "Any other variety" class numbered eleven entries, and there was a keen contest for the first prize between Mr. Butterworth's Himalayan doe and Mr. C. Rayson's buck of the same kind. Of the two, perhaps the doe was the larger, and well marked. The second prize was given to a splendid Angora buck belonging to Mr. Rayson: his Belgian Hare Rabbit doe, the only one shown, was highly commended. Two pens were empty, and so the Rabbit fanciers were disappointed of seeing a novelty, at least by name—viz., the Belier, entered for competition. I think the Committee would do well to have some better cards for the highly commended pens, as it seems paltry to write "H. C." with pencil upon the number card of the pen.

Spanish.—1 and Cup, C. W. Brierley, Middleton. 2, H. Beldon, Goitstock, Bingley. *hc*, J. C. & E. Newbitt, Epworth; F. & C. Haworth, Newfield, Haslingden. *Chickens.*—1, F. & C. Haworth. 2, W. F. Pickard, Thorner, Leeds. *c*, P. H. Jones, Fulham.

Cochins (Cinnamon and Buff).—1 and 2, H. Mapplebeck, Moseley, Birmingham. *hc*, C. Sidgwick, Ryddlesden Hall, Keighley; W. A. Taylor, Manchester. *Chickens.*—1, Cup, and *hc*, C. Sidgwick. 2, W. A. Taylor.

Any other Variety.—1, T. Stretch, Ormskirk. 2, W. A. Taylor. *c*, C. W. Brierley. *Chickens.*—Prize, C. Sidgwick (Partridge).

Brahmas.—1 and Cup, J. H. Pickles, Birkdale, Southport. 2, E. Leech, Rochdale. *hc*, C. Layland, Morris Brook, near Warrington; W. Hargreaves, Bacup. *Chickens.*—1, C. Layland. 2, D. Holdworth, Broadfield, Rochdale. *hc*, H. Dowsett, Pleshey, Chelmsford. *c*, C. Layland; P. H. Jones.

Brahmas (Light).—1, H. Dowsett. 2, J. Pares, Postford, Guildford. *Chickens.*—1 and 2, J. Pares. *hc*, H. Lacy, Hebden Bridge.

Game.—1, Cup, and 2, C. W. Brierley. *Cocks.*—1 and *hc*, C. W. Brierley. 2, W. Boyes, Beverley. *Chickens.*—1 and 2, J. Carlisle, Earby.

Polands.—1 and 2, H. Beldon. *hc*, W. Gamon. *Chickens.*—1 and 2, H. Beldon. *hc*, W. Gamon.

Hamburghs (Golden-spangled).—1, T. Walker, jun., Denton. 2, S. and R. Ashton, Roe Cross, Mottram. *hc*, H. Pickles, jun., Earby. *c*, F. Greenwood, Rochdale; T. Boulton, Hanford, Stoke-on-Trent. *Chickens.*—1, T. Walker, jun. 2, T. Scholes, Hollinwood, Manchester. *hc*, E. Briarley, Heywood; T. Walker, jun.

Hamburghs (Silver-spangled).—1 and Cup, H. Beldon. 2, W. A. Taylor, Manchester. *hc*, J. Fielding, Newchurch, Manchester; H. Pickles, jun. *Chickens.*—1, J. Fielding. 2, Ashton & Booth, Broadbottom, Mottram. *hc*, H. Beldon; H. Pickles, jun.

Hamburghs (Golden-pencilled).—1, S. Smith. 2, T. Wrigley, jun., Tonge, Middleton. *Chickens.*—1, H. Pickles, jun. 2, T. Wrigley, jun. *hc*, S. Lord, Healey Bottoms, Rochdale.

Hamburghs (Silver-pencilled).—1, H. Beldon. 2, Withheld. *Chickens.*—1, H. Pickles, jun. 2, H. Beldon.

Hamburghs (Black).—1, C. Sidgwick. 2, D. Lord, Stacksteads. *Chickens.*—1 and *hc*, C. Sidgwick. 2, S. Butterfield, Keighley. *c*, N. Rigg, Rochdale.

Dorkings.—1 and Cup, J. Stott, Healey, Rochdale. 2, J. White, Warlaby, Northallerton. *Chickens.*—1, T. Briden, Earby. 2, Rev. E. Bartrum, Berkhampstead. *hc*, W. H. King, Rochdale; J. White.

Any other Distinct Breed except Bantams.—1, C. W. Brierley. 2, S. H. Stott (Houdans).

Game Bantams.—1, W. Adams, Ipswich. 2, J. W. Morris, Rochdale. *Cocks.*—1 and Cup, W. F. Entwisle, Leeds. 2, C. W. Brierley.

Bantams (Any other variety).—1, H. Beldon (Pekin). 2, S. & R. Ashton.

Ducks (Aylesbury).—1, Cup, 2, and *hc*, Mrs. M. Seamons, Hartwell, Aylesbury. *c*, E. Leech.

Ducks (Rouen).—1, E. Leech. 2, W. Gamon. *hc*, D. Howarth, Broadfield, Rochdale.

Any other Variety.—1 and 2, C. W. Brierley. *hc*, T. C. Harrison, Hull.

Extra Stock.—*hc*, E. Kierby, Rochdale.

Geese (White).—1 and Cup, T. Statter, jun., Stand Hall, Whitefield. 2, E. Leech. *hc*, S. H. Stott; Rev. G. Hustler, Stillingfleet Vicarage, York.

Geese (Grey or Mottled).—1, S. H. Stott. 2, T. H. Revidge, Blackburn. *Goslings.*—1, S. H. Stott. 2, E. Leech.

Turkeys.—*Cock.*—1, E. Leech. 2, D. Howarth. *Hen.*—1, Cup, and 2, E. Leech.

Selling Class.—1, M. Cavannah, Shawclough, Rochdale. 2, W. Bamford, Marsden Lane, Harper Ley. 3, F. & C. Howarth. *c*, R. Mills (Black Spanish); W. A. Taylor; D. Howarth.

PIGEONS.

Pouters.—*Cock.*—Cup, 1, 2, and *hc*, R. Fulton, Deptford. 3, W. Gamon. *Hen.*—1, 2, and 3, R. Fulton. *hc*, R. Fulton; W. Gamon.

Carriers.—*Cock.*—1, 3, and *c*, R. Fulton. 2, F. Crossley, Elland. *hc*, R. Fulton; J. Hawley. *Hen.*—1 and 2, F. Crossley. 3, J. Hawley. *hc*, H. Yardley; R. Fulton.

Tumblers (Almond).—1, 2, and 3, R. Fulton. *hc*, J. Fielding jun. *c*, F. T. Wiltshire, West Croydon, Surrey.

BALDS OR BEARDS.—1, 2, and *c*, J. Fielding. 3, H. W. Hale, Croydon.
TUMBLERS (Any other variety).—1, J. Hawley. 2 and 3, R. Fulton. *hc*, R. Minnitt, jun, Healey Parsonage, Rochdale; R. Fulton. *c*, F. Crossley; J. Fielding, jun.
OWLS.—1, F. Crossley. 2 and 3, J. Fielding, jun. *hc*, F. Crossley; P. H. Jones.
BARBS.—1 and 3, Capt. Heaton, Eccles. 2, F. T. Wiltshire. *hc*, J. H. Ivimy, Lingfield, East Grinstead; F. Crossley; P. H. Jones, Fulham; R. Fulton; Capt. Heaton. *c*, H. Yardley, Birmingham.
DRAGOONS.—1, H. Yardley. 2, W. Gamon. 3, P. H. Jones. *c*, T. Charnley, Blackburn; W. Gamon.
TRUMPETERS.—1 and 2, J. Hawley. 3, W. Gamon. *hc*, Hudson & Burnip, Epworth; W. Gamon.
TURBITS.—1, P. H. Jones. 2 and 3, J. Fielding, jun.
JACOBINS.—1, P. H. Jones. 2, J. C. & E. Newbitt. 3, J. Hawley.
ANTWERPS.—1 and 2, H. Yardley. 3, J. Hawley.
FANTAILS.—1, W. R. Park, Abbot's Meadow, Melrose. 2, J. C. & E. Newbitt. 3, W. H. Tomlinson. *hc*, J. Walker; J. C. & E. Newbitt; P. H. Jones.
MAGPIES.—1, P. H. Jones. 2, J. Hawley. 3, E. E. M. Royds.
ANY OTHER VARIETY.—1, H. Yardley. 2, W. Massey, Spalding. 3, P. H. Jones.
SELLING CLASS.—1, F. Kay, Beverley. 2, E. Walker, Leicester. 3, W. Massey. *hc*, W. Butterworth, Rochdale; F. Kay.
RABBITS.—*Lop-eared.*—1, A. H. Easten, Hull. 2, J. T. Sykes, Rochdale. *Silver-Grey.*—1 and 2, E. E. M. Royds, Rochdale. *Any other Breed.*—1, J. Butterworth, Rochdale (Angora). 2, C. Rayson, Prestwich (Himalayan). *hc*, C. Rayson (Belgian Hare Rabbit).

The Judges of *Poultry* were Messrs. Douglas, Hewitt, and Teebay; and of *Pigeons*, Messrs. Tegetmeier and Wolstenholme.

KEIGHLEY POULTRY SHOW.

MOST favourable weather, an unusual number of entries from the most noted breeders, and an attendance of visitors beyond all precedent, rendered the Show of the 20th inst. the most successful of any hitherto held at Keighley.

The Buff *Cochins* exhibited by Messrs. Mapplebeck and Sidgwick call for especial mention, the chickens taking the cup for this variety, and Mr. Sidgwick deserves all praise for the truly excellent condition in which they were placed in competition. Mr. Brierley's extraordinary pen of *Spanish* fowls secured the silver cup, but the hen seemed to us to be somewhat "knocked-up" by over-exhibition. The same gentleman also obtained the silver cup for the best pen of *Game* fowls with very well-shown Brown Reds. In *Hamburghs* Mr. Beldon was the most fortunate exhibitor with birds of the highest merit; and Mr. Sidgwick's excellent Black Hamburghs were equally worthy of the highest praise. *Polish* chickens were very good and well shown. Game *Bantams* were for the most part considerably out of feather. The classes for *Ducks* and *Geese* were especially good, and the "Variety" class of Ducks was the object of general attraction. In this class the varieties taking prizes were the Whistling Ducks and the Ruddy Shell Ducks. Mandarins, Teal, Carolina, and Bahama Ducks were also in this competition.

The *Pigeons* were of very superior quality, and the general attractiveness of this portion of the Exhibition was evident from the assemblage of visitors which absolutely thronged this portion of the Exhibition.

The *Rabbits*, though not so strong numerically as the Committee could have desired, were admirable specimens, and the competition was good in each of the four classes devoted to them. The Angora Rabbits were particularly first-rate.

COCHIN-CHINA (Buff).—1 and 2, H. Mapplebeck, Woodfield, Moseley, Birmingham. *hc*, C. Sidgwick, Riddlesden Hall, Keighley; W. A. Taylor, Manchester. *Chickens.*—Cup, 1, and *hc*, C. Sidgwick. 2, W. A. Taylor.
COCHIN-CHINA (Any colour).—1, W. A. Taylor. 2, C. W. Brierley, Middleton. *hc*, — Crossley, Bloomfield, near Halifax. *Chickens.*—1 and 2, C. Sidgwick.
SPANISH (Black).—1, C. W. Brierley. 2, H. Beldon, Bingley. *hc*, J. C. and E. Newbitt, Epworth. *Chickens.*—1, H. Beldon. 2, W. & F. Pickard, Thorner, Leeds. *c*, J. H. Booth, Silsden; J. Berry, Silsden.
HAMBURGH (Silver-pencilled).—1 and 2, H. Beldon. *Chickens.*—1, Cup, and 2, H. Beldon. Extra 3, H. Pickles, jun, Earby. *hc*, J. Steel, Branshaw Moor; H. Pickles, jun.
HAMBURGH (Golden-spangled).—1, H. Beldon. 2, S. & R. Ashton, Mottram. *hc*, H. Pickles, jun. *Chickens.*—1, W. Driver, Morton Banks. 2, H. Beldon.
HAMBURGH (Golden-pencilled).—1, E. Clayton, Morton Banks. 2, S. Smith, Northowram. *hc*, H. Beldon. *Chickens.*—1, H. Beldon. 2, J. Wilkinson, Northowram. *hc*, S. Smith.
HAMBURGH (Silver-spangled).—1 and 2, H. Beldon. *hc*, W. A. Taylor. *Chickens.*—Cup, 1, and 2, H. Beldon. Extra 4, H. Pickles jun. *hc*, W. Bairstow, Bingley. *c*, G. Mitchell, Keighley; W. Bairstow.
HAMBURGH (Black).—1 and *hc*, C. Sidgwick. 2, J. Smith, Gilstead. *Chickens.*—1, Cup, 3, and 4. C. Sidgwick. 2, T. Fawcett, Baildon. *hc*, S. Butterfield, Keighley. *c*, W. Green, Keighley.
POLISH.—1 and 2, H. Beldon. *Chickens.*—1, J. Bowker, Keighley. 2 and *hc*, H. Beldon, Bingley. *c*, W. Gamon, Chester.
DORKING.—1, T. Briden, Earby. 2, G. Andrews, Turford. *Chickens.*—1, T. E. Kell, Wetherby. 2, T. Briden, Earby.
GAME (Red).—1 and Cup, C. W. Brierley. 2, H. Jowett, Idle. *hc*, E. Aykroyd, Bradford. *Chickens.*—1 and Cup, H. Jowett. 2, J. Fortune, Morton Banks. *hc*, J. Carlisle, Earby, Skipton. J. Pearson, Bradford.
GAME (Any other variety).—1 and Cup, H. M. Julian, Hull. 2, H. Jowett. *hc*, G. Noble, Staincliffe. *Chickens.*—1, Cup, and 2, T. Dyson, Halifax.
ANY OTHER DISTINCT BREED.—1, E. Leech, Rochdale. 2, J. Smith, Long Lee. *Chickens.*—1, E. Leech. 2, J. J. Malden, Biggleswade. *hc*, J. J. Malden; M. Scott, Idle. *c*, S. H. Stott, Rochdale.
GAME BANTAM.—1, J. Crosland, Wakefield. 2, W. F. Entwisle, Leeds. *hc*, G. Noble; W. Greaves, Bradford. *Chickens.*—1, G. Noble. 2 and *hc*, J. Crosland. *c*, W. F. Entwisle.
BANTAM (Any other distinct breed).—1, H. Beldon. 2, T. C. Harrison, Hull. *hc*, S. & W. Clapham, Keighley. *c*, S. & R. Ashton; S. H. Stott. *Chickens.*—1, J. H. Riley, Keighley. *c*, T. C. Harrison, Hull; R. B. Riley, Halifax.
DUCKS (Rouen).—1, J. Dixon, Bradford. 2, J. Newton, Silsden. *hc*, J. H. Booth, Silsden; E. Leech, Rochdale; J. Dixon.
DUCKS (Aylesbury).—1, E. Leech. 2, no competition.
DUCKS (Any other variety).—1 and 2, C. W. Brierley. *hc*, S. & R. Ashton; J. Dixten; T. C. Harrison; W. Greaves.
GEESE.—1 and 2, E. Leech, *hc*, H. Crossley; S. H. Stott.
SELLING CLASS (Any variety).—*Cock.*—1, J. Bowker, Keighley. 2, F. H. Hawood, Haslingden. *hc*, J. Berry. *c*, J. Smith; C. W. Brierley, Middleton; R. Longbottom, Bingley. *Hens.*—1, J. Bowker. 2, J. H. Booth. *hc*, W. Johnson, Idle; H. Beldon; J. Berry, Silsden; J. Carlisle, Earby. *c*, H. Wilkinson, Skipton; J. Smith, Allerton.

PIGEONS.

POUTER.—*Cock.*—1, 2, and *c*, E. Horner, Harewood. 3, W. Gamon. *Hen.*—1, 2, and 3, E. Horner.
CARRIER.—*Cock.*—1, J. Thompson, Bingley. 2 and 3, E. Horner. *c*, J. Hawley, Bingley. *Hen.*—1, J. Hawley. 2, H. Smith, Skipton. 3 and *c*, E. Horner.
TUMBLERS (Almond).—1, J. Fielding, jun., Rochdale. 2, J. Hawley.
TUMBLERS (Mottled).—1, J. Hawley. 2, J. Fielding, jun.
BALDS OR BEARDS.—1, 2, and 3, J. Fielding, jun. *c*, E. Horner.
OWLS.—1, 2, and *c*, J. Fielding, jun. 3, T. Eggleston, Halifax.
TURBITS.—1 and 3, E. Horner. 2, J. Fielding, jun. *c*, T. C. & E. Newbitt.
JACOBINS.—1 and 3, E. Horner. 2 and *c*, J. Thompson.
FANTAILS.—1, 2, and *c*, J. Hawley. 3, T. C. & E. Newbitt.
BARBS.—1, J. Firth, Dewsbury. 2 and 3, J. Fielding, jun. *c*, E. Horner.
DRAGOONS.—1, S. Smith, Bradford. 2, J. Thompson. 3, T. Smith. *c*, T. Smith; J. Thompson.
TRUMPETERS.—1, J. Hawley. 2 and 3, E. Horner. *c*, J. Firth.
MAGPIES.—1 and 2, E. Horner. 3, J. T. Lishman, Girlington. *c*, J. Hawley.
ARCHANGELS.—1, J. Thompson. 2, H. Yardley. 3, J. Booth. *c*, S. & R. Ashton.
ANY OTHER BREED.—1 and 3, E. Horner. 2, J. Fielding, jun. *c*, J. Hawley.
SELLING CLASS (Any variety).—1 and 2, E. Horner. 3, J. Fortune, Morton Banks.
RABBITS.—*Long-eared Buck.*—1 and *hc*, T. Ingham, Leeds. 2, C. Gravil, jun., Thorne. *Doe.*—1, C. Gravil, jun. 2 and *c*, T. Ingham. *hc*, A. H. Easten, Hull. *Any other Variety.*—*Buck.*—1, A. H. Easten. 2, T. Rawstron. *hc*, L. Sharp, Keighley; S. M. Smith, Keighley. *Doe.*—1, A. H. Easten. 2, E. Driver, Morton Banks. *hc*, L. Sharp.

The Judges were for *Poultry*, Mr. E. Hewitt, Eden Cottage, Sparkbrook, Birmingham, and Mr. R. Teebay, Fulwood, Preston; for *Pigeons*, Mr. W. Smith, Halifax.

DEANE POULTRY SHOW.

THIS Show was held on the 19th inst., and though the entries were not very numerous, some good specimens were shown. Mr. Leech, of Rochdale, would doubtless have taken several prizes had he not sent a cock and hen for each pen, instead of one cock and two hens as required by the rules.

SPANISH.—1, C. W. Brierley, Middleton. 2, T. C. & E. Newbitt, Epworth
DORKINGS.—1, W. H. King, Rochdale. 2, W. Parr, Particroft.
GAME.—1, C. W. Brierley. 2, R. H. Ainsworth, Moss Bank, Bolton. *Cock.*—1, C. W. Brierley. 2, A. Smith, West Leigh.
COCHIN-CHINA.—1, C. W. Brierley. 2, T. Teasdale, Longworth, Bolton.
BRAHMAS.—2, M. Platt, Deane (Dark).
HAMBURGHS.—*Golden-pencilled.*—1 and 2, W. Parr. *Silver-pencilled.*—1, J. Platt. 2, W. Parr. *Golden-spangled.*—1, W. Perr. *Silver-spangled.*—1 and 2, J. Fielding, Newchurch, Mancheater.
POLANDS.—1, J. Partington, Leigh (Silver-spangled). 2, W. Gamon, Chester.
ANY OTHER VARIETY.—1, D. Lord, Stacksteads, Manchester (Black Hamburghs). 2, H. Wyndham, Wawne, Beverley (Crêve-Cœurs).
GAME BANTAMS.—1 and 2, W. F. Entwisle, Leeds.
BANTAMS (Any other variety).—1, N. Platt, Dean (White Rose-comb Bantams). 2, R. H. Ainsworth.
DUCKS.—*Aylesbury.*—1, H. S. Woodcock, Wigan. *Rouen.*—1, C. W. Brierley. 2, W. Gamon. *Any variety.*—1, S. H. Stott, Rochdale. 2, C. W. Brierley.
TURKEYS.—1, S. H. Stott.
PIGEONS.—*Carriers.*—1 and 2, J. Chadwick. *Tumblers.*—1, H. Yardley. Birmingham. *Owls* (English).—1, A. Jackson, Heaton. 2, W. Gamon. *Pouters.*—1 and 2, W. Gamon. *Fantails.*—1, T. C. & E. Newbitt. 2, J. Chadwick. *Dragoons.*—1, D. B. Bromilow, Over Hulton. 2, H Yardley. *Antwerps.*—1, H. Yardley. 2, W. Markland, Deane. *Any other Variety.*—1 and 2, J. Chadwick (Black and White Barbs). *Extra Stock.*—2, D. Bromilow (Dragoons).

The Judges were Mr. S. Fielding, Trentham, and Mr. T. H. Ridpeth, Outwood Hall, Hanford, near Manchester.

POCKLINGTON POULTRY SHOW.

(From a Correspondent.)

THIS was held on the 18th inst., when the following awards were made:—

GAME (Black-breasted and other Reds).—1, W. Boys, Beverley. 2, O. A. Young, Driffield.
GAME (Any other variety).—1, W. Boys. 2, W. Bearpark, Ainderby Steeple, Northallerton. *Chickens.*—1, C. Kelsey, M. Weighton. 2, W. Bearpark.

Spanish.—1, W. Bearpark. 2, G. Holmes, Driffield. *Chickens.*—1, G. Holmes, 2, Mrs. J. Cook.

Dorkings.—1, D. White, Driffield. 2, G. Holmes. *Chickens.*—1, W. J. Holster, York. 2, O. A. Young.

Cochin-China.—1, G. H. Radmine, Whitby. 2, S. Robson, Brotherton. *Any other Variety.*—1, — Smithson, Manor House, Barmby. 2, J. Appleton, Pocklington. *Chickens.*—1, R. Dawson, Beverley. 2, Mrs. Dawson.

Brahma Pootras.—1, O. A. Young. 2, Lady Muncaster, Warter Priory. *Chickens.*—1, J. Taylor, Barmby Moor.

Hamburghs.—1, G. Holmes. 2, W. Bearpark.

Hamburghs.—1 and 2, G. Holmes. *Chickens.*—1 and 2, G. Holmes.

Farmyard Cross.—1, O. A. Young. 2, G. Holmes.

Game Bantams.—1, J. Dugglehy, Driffield. 2, G. Holmes.

Bantams (Any variety).—1, T. C. Harrison, Hull. 2, G. Holmes.

Single Cocks—*Game.*—1, W. Boys. 2, W. English, Pickering. *Spanish.*—1, T. Robson. 2, O. A. Young. *Dorking.*—1, D. White. *Cochin-China.*—1, R. Dawson. 2, G. Holmes. *Hamburghs.*—1, G. Holmes. 2, J. Webster. *Bantam.*—1, W. Gilson, Pocklington. 2, G Holmes.

Ducks.—1, M. Harrison, Warter. 2, O. A. Young. *Ducklings.*—1, M. Harrison. 2, O. A. Young.

Ducks (Any variety).—1, T. C. Harrison, Hull. 2, W. J. Hulster York. *Ducklings.*—1, Miss Singleton, Pocklington. 2, Mrs. Bolderson, Beilby.

Geese.—1, W. J. Hulster. 2, O. A. Young. *Goslings.*—1, T. Croft. 2, M. Harrison.

Turkeys.—1, O. A. Young. 2, W. J. Hulster.

Guinea Fowls.—1, T. Croft. 2, O. A. Young.

Pigeons.—*Pouters or Croppers.*—1, S. Robson. 2, W. Bearpark. *Tumblers*—1, F. Kay, Beverley. 2, C. N. Lythe, Cottingham. *Barbs.*—1, H. Yardley, Birmingham. 2, C. Anton, York. *Jacobins.*—1, R. Fleming, Hull. 2, H. Yardley. *Fantails.*—1 and 2, C. N. Lythe. *Trumpeters.*—1, S. Robson. 2, C. N. Lythe. *Owls*—1, F. Kay. *Turbits.*—1, C. N. Lythe. 2, Pickering and Marshall, Driffield. *Carriers.*—1, W. Campoey, Beverley. 2, H. Yardley. *Nuns.*—1, C. N. Lythe. 2, H. Yardley. *Any other Variety.*—1, H. Yardley. 2, C. Anton.

Rabbits.—*Longest Ears.*—1, J. Appleby, Pocklington. 2, J. Staveley, Sibthorpe. *Buck.*—1, T. Spink. *Doe.*—1, R. Graygen. 2, J. Sellers.

WORCESTER POULTRY SHOW.

This Show opened on the 24th inst., and will close to-day. The competition was restricted exclusively to chickens, and considering the time of year, it has rarely been our privilege to meet with its equal in general quality. The arrangements, as might be anticipated, under the eye of Mr. Holland, need no improvement, and the courtesy and the desire of that gentleman to meet the wishes of all exhibitors, claim the highest approval.

The *Game* classes might certainly have been stronger, the bulk of these varieties being somewhat out of feather. The Grey *Dorking*, on the contrary, was one of the most meritorious of classes; and the Buff and Partridge *Cochins* were of unusual excellence. Of Dark *Brahmas* there was one of the best and heaviest entries in the Show, exceeding the anticipations of most poultry exhibitors. The Light-coloured Brahmas were good, but there was not a large entry. All the *Hamburghs* were excellent, the Blacks, Silver-pencilled, and Silver-spangled being especially so. *Game Bantams* were mostly the worse for moulting, but many pens from our first-rate breeders were to be found among the winners. Laced Sebright Bantams were a weak entry, and, unfortunately, some of the best birds arrived too late for competition.

Of *Geese*, *Turkeys*, and *Ducks* we do not wish to see better entries; they were all first-rate. The class for any other variety of Ducks was unexpectedly a weak one, a pen of excellent Buenos Ayrean being first, and a pen of common Teal second.

As regards the weather, nothing could be more favourable, and there was a very large attendance of visitors. Messrs. Turner's pens left nothing to be desired in the way of improvement, and every attention was paid to the poultry.

CHICKENS.

Game (Black or Brown-breasted Reds).—1, W. H. Cooke, Stanford-on-Teme, Worcester. 2, C. Chaloner, Steetly, Whitwell, Chesterfield. 3, T. Dyson, Halifax.

Game (Black or Brown-breasted Reds).—1 and 3, S. Matthews, Stowmarket. 2, W. Jones, Worcester. *hc*, F. Oreton, Walsall *c*, E. Shaw, Plas Wilmot, Oswestry; H. C. & W. J. Mason, Drighlington, Leeds.

Game (Duckwings and other Greys and Blues).—1, Mrs. E. Winwood, Worcester. 2, C. Chaloner.

Game (Duckwings and other Greys and Blues).—1, H. C. & W. J. Mason. 2, C. Chaloner. *hc*, G. S. Sainsbury, Devizes; E. Winwood. *c*, J. Cope, Barnsley; Miss L. Winwood, Worcester.

Game (Any other variety).—1, J. Pares, Postford, Guildford. 2, W. Griffith, Worcester.

Game (Any other variety).—1, H. C. & W. J. Mason. 2, G. & C. Furness, Accrington.

Dorkings (Coloured, except Silver-Grey).—1, Rev. A. K. Cornwall, Bencombe, Dursley. 2, L. Patton, Hillmore, Taunton. 3, Miss E. Whittington, Preston Hill, Henley-in-Arden. *hc*, J. Smith, Sbil jngles Park, Sussex; F. Parlett, Great Baddow, Chelmsford; Miss E Whittington; Rev. E. Cadogan, Walton Parsonage, Warwick. *c*, E. Shaw; J. F. Liebert, Wellesbourne Hall, Warwick.

Dorkings (Silver-Grey).—1, D. Campbell, M.D., Brentwood. 2, J. Watts, Hazelwell, Hall, King's Heath, Birmingham.

Spanish.—1, Tonkin & Tuckey, Bristol. 2, F. James, Peckham Rye, Surrey. 3, W. R. Bull, Newport Pagnell. *c*, F. James; H. & S. Cooper, Walsall.

Cochin-China (Cinnamon and Buff).—1, C. Sidgwick, Ryddlesden Hall, Keighley. 2, D. Young, Leamington. 3, Mrs. Allsopp, Hindlip Hall, Worcester. *hc*, T. Stretch, Ormskirk; C. Sidgwick; W. A. Taylor, Manchester; Mrs. Allsopp. *c*, J. Cattell, Bristol Road, Birmingham; F. W. Rust, Hastings.

Cochin-China (Partridge and Grouse).—1 and 2, C. Sidgwick. 3, H. Lingwood, Martlesham, Woodbridge, Suffolk. *hc*, T. Stretch; E. Shaw. *c*, G. Lamb, Compton, Wolverhampton.

Cochin-China (Any other variety).—1 and 2, A. J. E. Swindell, Heathland, Kinver, Stourbridge. *hc*, A. P. Steedman, Bromsgrove.

Brahma Pootra (Dark).—1 and 3, H. B. Morrell, Caermawr, Radnorshire. 2, H. Lingwood. *hc*, H. B. Morrell; Hon. Mrs. A. Baillie Hamilton, Edgcomont, Woburn; Mrs. Hurt, Alderwasley, Derby. *c*, Rev. J. Bowen, Llangorse, Talgarth; H. Dowsett, Pleasley, Chelmsford. J. K. Fowler, Aylesbury; Mrs. Burrell, Stoke Park, Ipswich.

Brahma Pootra (Light).—1, H. Dowsett. 2, T. A. Dean, Morton-on-Lugg, Hereford. *hc* and *c*, J. Pares.

Hamburghs (Black) —1, C. Sidgwick. 2, J. M. Kilvert, Ludlow.

Hamburghs (Gold-pencilled).—1, H. Pickles, jun., Earby, Skipton. 2, W. Pierce, Hartford, Northwich, Cheshire. *c*, J. Watts.

Hamburghs (Silver-pencilled).—1 and *c*, Mrs. Allsopp. 2, H. Pickles, jun.

Hamburghs (Gold-spangled).—1, T. May, Wolverhampton. 2, Miss C. E. Palmer, Lighthorne, Warwick.

Hamburghs (Silver-spangled).—1, H. Pickles, jun. 2, W. Stephens, Gloucester.

Any Distinct Variety, not included in the above Classes.—1, Miss E. Williams, Henleys, Berrlew, Montgomeryshire. 2, Mrs. Seamons, Hartwell, Aylesbury (Crève-Cœur). 3, H. M. Maynard, Holmewood, Ryde, Isle of Wight (Houdans). *c*, J. B. Masefield, Ledbury (Houdans); W. O. Quibell, Newark (Houdans).

ADULT BIRDS.

Game Bantams.—1, J. Crosland, jun., Wakefield. 2, W. F. Entwisle, Leeds. 3, W. Adams, St. Clements, Ipswich. *hc*, J. Crosland; W. F. Entwisle.

Bantams (Laced).—1, H. Draycott, Humberstone, Leicester. 2, Countess of Winterton, Shillinglee Park, Sussex.

Bantams (Black or White).—1, S & R. Ashton, Mottram. 2, J. Elgar, Osmanthorpe Hall, Newark.

Turkeys —1, L. Patton. 2, Mrs. Allsopp.

Geese.—1, Mrs. Seamons. 2, J. K. Fowler. *hc*, S. H. Stott, Rochdale; Mrs. Allsopp.

Ducks.—*Aylesbury* —1, J. K. Fowler. 2, Mrs. Seamons. 3, E. C. Phillips, Fenyroch, Brecon. *hc*, J. K. Fowler. *c*, Mrs. Seamons. *Rouen.*—1, L. Patton. 2, W. Stephens, Gloucester. 3, F. Parlett. *hc*, J. K. Fowler. *c*, Mrs. E. G. Norris, Hatchford Parsonage, Cobham, Surrey.

Ducks (Any other variety).—1, Miss Clifton, Whittington Worcester. 2, S. & R. Ashton.

The Judge was Edwd. Hewitt, Esq., of Eden Cottage Sparkbrook, near Birmingham.

MEIGLE POULTRY SHOW.

The following awards were made at this Show, which took place on the 18th inst.:—

CHICKENS.

Dorkings.—Cup, P. W. Ogilvy, Ruthven. 2 and *hc*, G. Allan, Balbary.

Spanish.—1, J. Fergus, Polmont. 2, Mrs. Anderson, Meigle. *c*, T. Raines.

Brahmas.—1 and 2, P. W. Ogilvy. *c*, J. W. Morrison; D. Gellatly, Meigle.

Game.—1, P. W. Ogilvy. 2, J. Douglas, Clumber.

Cochin-China.—2, J. M'Donald, Carnoustie.

Hamburghs.—1, G. Caithness.

Bantams.—1, T. Raines. 2, P. W. Ogilvy.

Any other Variety.—1, Miss Anderson, Meigle.

Any Variety (Adult).—1, J. Douglas. 2, P. W. Ogilvy. *vhc*, T. Raines. *Chickens.*—1, P. Symon. 2, J. M'Donald. *c*, T. Raines.

Selling Class.—1, P. W. Ogilvy. 2, Mrs. Anderson. *c*, Miss Brown, Pensicbill.

Ducks.—1, P. W. Ogilvy. 2, Mrs. J. Douglas.

Geese.—1, Mrs. Barclay, Simprin. 2, Mrs. J. Douglas. *c*, W. Hendry, Aberdeen.

Turkeys.—1, Miss A. Kinloch. 2, Lord J. F. G. Hallyburton.

LOCAL.

Dorkings.—1 and 2, J. Allan. *c*, A. Bruce. *Chickens.*—1, A. Bruce. 2, D. Gellatly. *hc*, G. Allan.

Spanish.—1, W. Thomson. 2, Mrs. Anderson. 3, J. Cree. *Chickens.*—1 and 2, Mrs. Anderson. 3, W. Thomson.

Any other Variety.—1, J. Munro, Ruthven. 2, J. Witton, Ruthven. 3, Mrs. White, Whins, Ruthven. *c*, G. Brown. *Chickens.*—1, 2, and 3, D. Gellatly. *c*, D. Crichton, Ruthven.

Ducks.—1, D. Gellatly. 2, G. Cuthill. 3, G. Allan. *Ducklings* (Selling Class).—1, A. Bruce. 2, Mrs. Kidd. 3, Mrs. Duncan.

Selling Class.—1 and 3, W. Simpson. 2, R. Simpson, Cardean.

Pigeons.—1, D. Gellatly (Barbs). 2, D. Anderson, Meigle. 3, P. Henderson (Fantails).

KNARESBOROUGH POULTRY SHOW.

This Show, held on the 24th inst, was not so large as several of those which took place in previous years, though in quality some of the birds were faultless.

The most noticeable birds were the *Spanish* hens in the first-prize pen, and those in the winning pens of *Hamburghs*. The *Dorkings*, *Game*, and *Cochins* were moderately good. The winning *Pigeons* were very good.

The day was very fine, the Show well supported, and another year the Committee will, doubtless, be able to so far augment the prize list as to secure a larger show.

The following is the prize list:—

Cochin-China.—1, — Barnes, Thirsk. 2, W. & F. Pickard, Thorner. *c*, G. Holmes, Great Driffield; J. Walker, Haya Park, Knaresborough. *Chickens.*—1, — Barnes, Thirsk. 2, Miss Lord, Starbeck.

Dorkings.—1, A. C. Thompson, Kirby Hall, York. 2, J. Walker. *Chickens.*—1, A. C. Thompson.

Spanish.—1, W. & F. Pickard. 2, G. Holmes. *hc*, W. & F. Pickard. *Chickens.*—1 and 2, W. & F. Pickard. *hc*, G. Holmes; A. C. Thompson.

GAME (Any variety).—1 and 2, J. Watson, Knaresborough. *hc*, G. Holmes; J. Johnson, Starbeck. *Chickens.*—1, J. Watson. 2, J. Johnson.
HAMBURGHS (Golden-spangled).—1, J. Walker. 2, G. Holmes. *hc*, B. Marshall, Knaresborough. *Chickens.*—1, J. Walker.
HAMBURGHS (Golden-pencilled).—1, J. Walker. 2, G. Holmes. *c*, F. Horsman, Boroughbridge. *Chickens.*—1 and 2, J. Walker.
HAMBURGHS (Silver Pheasant or Spangled).—1, J. Walker. 2, G. Holmes. *c*, A. C. Thompson. *Chickens.*—1, J. Walker. 2, T. Cliff, Knaresborough.
HAMBURGH OR CRITTEPRAT (Silver-pencilled).—1, J. Walker. 2, G. Holmes. *Chickens.*—1 and 2, J. Walker.
BRAHMA POOTRA.—1 and 3, F. Powell, Knaresborough. 2, F. Horsman. *hc*, A. C. Thompson; F. Powell; J. Walker. *Chickens.*—1, 2, and *c*, F. Powell. *hc*, A. C. Thompson.
GAME BANTAMS (Any variety).—1, J. Pennington, Thirsk. 2, G. Holmes. *hc*, J. Walker; A. C. Thompson; F. Powell.
BANTAMS (Any other variety not previously mentioned).—1, F. Powell. 2, G. Holmes.
GEESE.—1 and *hc*, J. Walker. 2, J. Joy, Preston Bottoms.
DUCKS (Aylesbury).—1, A. C. Thompson.
DUCKS (Any other breed, not Aylesbury).—1, C. Graham, Aldborough. 2, J. Walker.
TURKEYS.—1, J. Joy.
GUINEA FOWLS.—1, J. Walker.
BARNDOOR FOWLS.—1, G. Holmes.
EXTRA STOCK.—1, C. Walker.

PIGEONS.—*Tumblers.*—1 and 2, J. Mason, Boroughbridge. *Fantails.*—1 and 2, J. Mason. *hc*, J. Watson, jun., Knaresborough. *c*, J. Walker. *Croppers.*—1, J. Watson, jun. 2, J. Walker. *Jacobins.*—1, J. Mason. 2, J. Walker. *Carriers.*—1 and 2, J. Watson, jun. *hc*, J. Mason.

Mr. Hutton, of Pudsey, was the Judge.

WOODSOME POULTRY SHOW.

THE fourteenth annual Exhibition of the Woodsome Society took place on the 18th inst. It was a good Show, exceedingly well attended, and the quality of the *Poultry* and *Rabbits* first-rate, but the *Pigeons* were not so good. The champion prize was closely contested by the first-prize Brown Red Game and the first-prize Golden-spangled Hamburghs, the latter winning by one point only.

DORKINGS.—1 and 2, J. T. Beaumont, Greenhead, Huddersfield.
SPANISH.—1, Burch & Boulter, Sheffield. 2, H. Beldon, Bingley.
COCHIN-CHINA.—*Cinnamon or Buff.*—1 and *hc*, C. Sidgwick, Ryddlesden Hall, Keighley. 2, J. H. Dawes, Mossley Hall, Birmingham. *Any other variety.*—1, J. White, Whitley, Netherton, near Wakefield. 2, J. Heeley, Hepworth, Holmfirth. *hc*, C. Sidgwick.
GAME (Black-breasted or Brown Red).—1, E. Aykroyd, Bradford. 2, G. White, Denby. *hc*, A. Senior, Riley, Kirkburton. *c*, H. Roberts, Highgate Lane, Lepton.
POLANDS.—1 and 2, H. Beldon.
BRAHMAS.—1, G. H. Walker, Slaithwaite. 2, C. Layland, Morris Brook, near Warrington. *c*, J. T. Beaumont; J. Battye & Co., Hillhouse, Holmfirth.
HAMBURGHS.—*Gold-pencilled.*—1, H. Beldon. 2, W. Parr, Patricroft, Manchester. *Gold-spangled.*—1, H. Beldon. 2, J. White. *hc*, J. Rollinson, Lindley, Otley. *c*, G. Haigh, Hogley Green, Holmfirth. *Silver-pencilled.*—1 and 2, H. Beldon. *Silver-spangled.*—1 and 2, H. Beldon. *c*, J. Bradbury, Bradshaw, Anstonland.
GAME BANTAMS.—1, J. Walker, Bradford. 2, G. Noble, Staincliffe. *hc*, W. F. Entwisle, Leeds; G. Noble; R. Armitage, Lepton; A. Senior; S. Binns, Spring Gate, Kirkburton; W. Greaves, Bradford. *Any other Variety.*—1, G. White, Denby. 2, H. Beldon. *hc*, J. Walker, Halifax.
CHICKENS (Any breed).—1, J. Bradbury. 2, C. Sidgwick. *hc*, J. T. Beaumont; S. Binns, Spring Gate, Kirkburton; R. Ellis, Junction, Saddleworth. *c*, J. Smith, Kirkburton.
DUCKS.—*Aylesbury.*—1, J. T. Beaumont. 2, B. Kaye, Honley. *hc*, J. North, jun., Huddersfield. *Rouen.*—1, J. White. 2, James Crossland, Huddersfield. *hc*, C. Sidgwick. *c*, S. H. Stott, Rochdale; James Crossland.
TURKEYS.—1, S. H. Stott. 2, James Crossland, Huddersfield.

PIGEONS.—*Carriers.*—1, James Crossland. 2, B. Shaw, Stirley, Berry Brow. *Pouters.*—1, James Crossland. 2, A. Broughton, Lockwood. *Tumblers.*—1 and 2, J. Hawley, Bingley. *Fantails.*—1, J. Hswley. 2, J. Hey, Brockholes. *c*, J. H. Sykes, Elmwood, Huddersfield. *Jacobins.*—1 and 2, James Crossland. *Trumpeters.*—1, J. Hawley. 2 and *hc*, J. H. Sykes. *c*, James Crossland. *Barbs.*—1, J. Hawley. 2, James Crossland. *hc*, J. H. Sykes. *Common Dovecote.*—1, L. Armitage. 2, J. H. Sykes. Equal 2, James Crossland. *c*, H. Sugden, Woodsome Lees.

RABBITS.—*Buck.*—1 and *hc*, T. Ingham, Leeds. 2, C. Gravil, Thorne. *Doe.*—1 and *hc*, T. Ingham. 2, C. Gravil.

The Judges were Mr. William Cannan, Bradford, and Mr. E. Hutton, Pudsey, Leeds.

LONG SUTTON POULTRY SHOW.—We have received the prize schedule of the Long Sutton Poultry Show, to be held on the 6th and 7th of October next, the entries closing on September 25th. It is one of the most liberal that have been issued for some time. Twelve silver cups are offered for competition, nine of which are of the value of five guineas each, and three of three guineas each. There are separate classes for young and old birds, consequently these cups cannot be monopolised by either young or old birds, each competing separately in their respective classes, and the competition is open to any part of the kingdom. There are also offered four other silver cups, restricted to local exhibitors. The money prizes are on a no less liberal scale. The list includes thirty classes for poultry, eighteen classes for Pigeons, and two for Rabbits. The Judges appointed appear by name in the prize schedule, and are Mr. Hewitt, of Birmingham, for poultry, and Mr. Tegetmeier, of London, for Pigeons.

THE INTRODUCTION AND PROPAGATION OF LIGURIANS.

(*Continued from page* 114.)

HAVING therefore, either by the purchase of a stock, or by the introduction of one or more queens, succeeded in obtaining the true breed, it is probable that most persons will expect to be enabled at once to propagate the pure Italian race; it is at least certain that I myself did so, and it took some time and a very considerable amount of rather unpalateable experience to undeceive me. It is true that if the Ligurian stocks be so exceptionally strong in early spring as to breed drones well in advance of every black colony within a radius of three to four miles, and young queens can be reared before any black drones are produced, such queens will have every chance of obtaining pure fertilisation. Although, singularly enough, I was so fortunate as to obtain this result with the first queen I ever reared, subsequent experience has satisfied me that success in the first attempt with only one Italian colony is so rare, that it is far better to devote the first season to furnishing every stock in the apiary with a Ligurian queen, multiplying queens at the same time as far as may be deemed desirable, but paying little or no heed to the character of their impregnation. For reasons which need not be entered upon here, but which have been already specified by me in discussing the subject of parthenogenesis in the honey bee, all these queens, although they may, and most of them probably will, breed a mixed worker progeny, will in the next and succeeding years breed only pure Italian drones, by the multitude of which the chances of a true impregnation will in the ensuing season be so much increased that the purity of the majority of young queens of the second year is not improbable; whilst if care be taken to keep all the stocks well up to the mark, success in the case of early-bred queens becomes nearly certain. During this second season, therefore, all doubtful queens of the first year should be weeded out and replaced by those of the current year.

Queens may also be bred in the autumn, and when all black drones have disappeared can scarcely fail of true impregnation, if a sufficient number of Italian drones can be preserved, and if the weather be warm enough.* For this purpose the usual drone massacre may be deferred almost indefinitely in one or more stocks by removing their queens. It is, however, in this case necessary to recruit the population, and at the same time to revive the courage of the bees by the occasional addition (or rather substitution of full brood-combs for empty ones), of combs filled with worker brood; whilst it is also essential promptly to destroy or remove any young princesses that may be raised, since not only will all the drones be speedily exterminated in the event of a princess becoming fertile, but the workers sometimes become so impatient of their presence under such circumstances, that a partial, or even an entire, massacre may take place even before the juvenile monarch has been able to avail herself of their services.

The Köhler-Dathe process, the revelation of which was anticipated in this country by my valued friend and correspondent, "R. S.," whose contributions to "our Journal" are unfortunately but too infrequent, can scarcely be of much use when the season is somewhat advanced, and so many old stocks and second swarms of common bees with young queens are worrying their drones that these persecuted unfortunates are incessantly on the wing, but up to and during the month of June, it will probably be found valuable in securing the pure impregnation of Italian queens. Mr. Köhler says the operation "is founded on my observation, that during many fine forenoons and afternoons the air is still warm enough for queens to fly out when drones usually have not commenced flying or have ceased to take wing. Until, therefore, the young queens become fertilised, we must compel the Italian queens and drones to go forth at such times as the German drones cannot possibly be abroad. The time during which drones are on the wing seldom extends with us to later than 4 or 5 P.M. If, therefore, we have one or more colonies with young queens which we know to a certainty have not yet been fertilised, we place these hives for three, four, or five days in a perfectly dark and cool cellar, and with them also the stock which contains the Italian drones. Whenever a very warm and sunny day occurs

* Dzierzon states that a temperature of above 70° is required.

we watch the German stocks until the drones have ceased their flight. As soon as this occurs we restore the hives containing the Italian queens and drones to their accustomed stands, and set them at liberty, after giving to each a cupful of liquid honey. The queen and drones being ardent, and having been unable to fly for days, the bees excited by the honey and their previous confinement become so eager after flight, that all play as if mad, and fertilisation follows. We must, however, be careful to return to the cellar in the evening every colony the queen of which has not been seen to return with the signs of a successful flight, and repeat the process until it is certain that the desired result has been obtained. This is essential, because it is well known that under ordinary circumstances some queens take flight several times before they succeed in meeting with a drone."

Dr. Preuss proposes still further to control the queen, and his method may, perhaps, be considered an improvement on the Köhler-Dathe process. He advises imprisoning the young queen on the fourth or fifth day of her existence, either under a wire pipe-cover, or by dividing off a part of the hive by means of a wire gauze partition, and then in the afternoon of the eighth or ninth day of her existence, and after the common drones have ceased to fly abroad, take out one or two combs with pure drones on them, stand them in the neighbourhood of the queen's hive, and then releasing her on a comb, rest it against the front of her hive, and permit her to take wing from it. He states that "as soon as the queen perceives the drones buzzing about her, she usually in less than a minute soars into the air, whence in from a quarter of an hour to an hour she returns fertilised to the hive, in order after three days to commence egg-laying." The combs are, of course, returned to their respective hives when the queen and drones have taken flight; and if the operation be not at once successful, the queen must be again imprisoned, and the process repeated on subsequent days until the desired result be attained.*

Mr. Köhler also describes another method which may be valuable where common hives are in use, and by which, as he expresses it, he obtains natural swarms by an artificial process, and can at the same time with one good Ligurian stock, Italianise a dozen colonies with the least possible trouble. The process is as follows:—"We take a hivo from which a swarm has just issued, and put it in the place of another very populous colony. After nine days, by means of the population received from the removed hive, it will certainly swarm again. If it is now shifted to the stand of another strong stock, it will, after two or three days, swarm again. We continue this process as long as we can hear queens piping in the hive of an evening. Under favourable circumstances, we may in this way obtain ten or twelve swarms, as the first hive supplies the queens and the others the bees. If, therefore, we have one or two Italian stocks, and feed them well early in the spring—say from the 20th of March, especially if they are well supplied with pollen, we may be sure that these hives will swarm first. By transposing them in this way with German stocks we shall obtain swarms with Italian queens and German bees."†—A Devonshire Bee-keeper.

(To be continued.)

REMOVING BEES TO THE MOORS IN HOT WEATHER.

I was sorry to see, in page 136, that "B." had been so unfortunate as to lose his bees in removing them to the heather. If he had followed my instructions in the Journal of July 21st, and September 1st, 1863, he would not have had to deplore the death of his bees; but they would have been now repaying him for taking them to such luxuriant pastures, where hundreds of tons of honey and wax are annually lost to the nation from want of collectors.—William Carr.

* Dr. Preuss's article appeared *in extenso* in No. 425 of "our Journal."
† The text of Mr. Köhler's article may be referred to in No. 386 of "our Journal."

OUR LETTER BOX.

Sickle Feather in Tail of a Brahma Pootra (*H. L.*).—The feather you sent is not a disqualification. It often arises from age. The older the cock the longer and larger the tail, and it often comes white at the points. Nothing justifies pulling out a tail. If the birds are properly judged tampering is sure to be detected, and that is more fatal than any excess of feather.

Silver-spangled Hamburghs Dark-combed (*C. P.*).—The nature of the diet you are giving your birds is unsatisfactory. Give them an entire change. Withdraw for a time all the maize, rice meal, grains, &c., and give them good barley meal made into dough, and thrown down to them on the ground. If the change should produce no effect in appearance, try them with one meal-a-day of stale bread soaked in ale.

Fowls Dying (*Bubo*).—We imagine your fowls have poison among the refuse wheat. You describe the symptoms of it. It is more than probable some of it has been dressed with arsenic for sowing. There is nothing remarkable about the stones; they are the grinders that enable the fowl to digest the food. When found in large numbers they are an indication of indigestion or discomfort. Wheat has a tendency to swell in the crop, and as soon as it is uncomfortably distended the patient flies to the water and drinks to excess; this causes the wheat to swell more, and then by instinct the bird picks up stones in the vain hope of getting rid of the discomfort in a natural way. All these symptoms would be aggravated tenfold if there were any arsenic. It would cause intense thirst and burning heat. If the intestines are examined there will probably be bright red spots always in a bleeding state, and these will account for the pain the birds suffer. Discontinue the "refuse wheat;" feed on good oat or barley meal mixed with milk; give them lettuces that have run to seed; withhold all other food save that which they pick up. If you have any severe cases now, shut up the birds, purge freely with a table-spoonful of castor-oil every day for three days, give milk to drink, and if necessary administer it with a syringe; afterwards give Bally's pills, and adopt a nourishing and slightly stimulating diet.

Feather-eating Fowls (*J. G. M.*).—We are afraid we can tell you of no plan by which you can prevent the French fowls from eating each other's feathers, if they are at all confined. We do not find they do it when at liberty. We have tried all we knew in medicine and food without success.

Rearing Young Pheasants (*Young Countryman*).—You will have no difficulty whatever in keeping your Pheasants. They have arrived at an age when they cause no trouble. You must enclose a place, on grass if possible, about 30 feet by 20, with hurdles made of split fir or other wood. The hurdles should be 14 feet high, and the laths forming them 1 inch apart. They should be fastened to upright poles, to which they should be attached. This is all that is necessary, as the birds require no shelter of any kind, and in such a place ten Pheasants may be kept as long as it is wished. Their food should be barley. It is necessary to cut one wing before they are put in such a pen; and as it may be desired to turn some out, and to keep in others, you should select the best and strongest, cut their wings, and put them in. Let the others fly away as soon as they will. As a rule, they take to roosting in the hedges, they go higher and higher till they reach the trees; in the same way they become less punctual at feeding time, till they absent themselves altogether. If you keep up only four birds you will require a pen only half the size of that we have mentioned. You may change their food at times by giving Indian corn or dough made of barleymeal, and slaked with milk or water. They should have fresh water always by them. There is an excellent work on Pheasants, published by Baily, Mount Street, price 1s.

Guinea Fowls (*G. McF.*).—We do not in England know so much of Guinea Fowls as we should. Much of our treatment of them is guesswork. It is believed, and we believe, they are monogamous, yet a person whom we can trust, says, he keeps a cock and four hens, and all the eggs are good. We believe they pair as strictly as Partridges. It is difficult to tell the sex. We tried to keep pairs, but we never did, and the eggs were very bad. We were once shooting on a wild track, where no house was in sight, and there was none within a quarter of a mile. The pointer stood in a patch of gorse. It was long before we could find the cause; when we did, we sprung a Guinea Fowl; she had forty-three eggs under her. None of them had been sat upon. When the hen wants to sit, she will go to the eggs and remain there. We have recounted the above anecdote only to show how prone they are to steal their nests, and it is more than likely your hen has a corner somewhere ready furnished.

Young Pigeons Diseased (*Pigeon*).—The causes of roup are cold and damp, and what are similar—draughts, and the cure is warmth. Considering the season is summer, we doubt if the complaint is roup, but rather canker, for the cure of which in young Pigeons we quote from a very old author:—"Take a half-pint phial and fill it three-parts full of the best vinegar, and drop into it as many drops of spirit of vitriol as will make it sufficiently pungent, which may be ascertained by trying it on the tongue a few times; sweeten it with a little honey, which will make it adhere to the throat, shake them well together, and take a feather and anoint the inside of the throat of the bird affected two or three times a-day, and in general a cure will be accomplished; hang the phial up in the loft where it will be ready for future occasions, as I do not perceive that the specific loses its virtue by keeping."

Australian Ground Parrakeet (*Old Subscriber*).—Canary seed and dry crumbled bread appear to suit this bird best. In constipation we should try bread and milk if the bird would eat it, or give four drops of castor oil. We should advise trying the bird with various kinds of food in order to save it.

Books (*J. B. B. N.*).—"Profitable Bee-keeping," by the Rev. P. V. M. Filleul, M.A., is published by the Society for Promoting Christian Knowledge, and may be obtained through any bookseller.

Black Stock Becoming Liourianised (*B. K.*)—There seems no doubt that the young queen of the whilom black colony has mated with a Ligurian drone, which causes her to produce a mixed progeny.

Driving and Uniting (*G. Scott*).—We should keep the stock hive and the second swarm if, as is most probably the case, the latter has filled its hive with comb. You will thus secure a harvest of fine honey in new combs, and may hope to leave young queens at the head of the two remaining colonies. It is well to remove one queen if it can be managed, preserving the younger or the larger of the two. The mode of uniting which you describe often answers completely, but on the other hand it sometimes fails altogether. The best plan is to drive both lots of bees into an empty hive, and then induct them into the one which they are permanently to occupy. You will find much valuable information on this and other points in Mr. Woodbury's articles on "Utilising and Uniting Condemned Bees," which appeared in Nos. 356, 357, 358, and 369 of our new series. The honey harvest ceases in our locality as soon as the fine weather breaks up in July, and if you can utilise the unhatched brood perhaps this is the best time for uniting. If not, you must balance matters as best you can between the destruction of brood and the possible waste of honey until, perhaps, about the end of September, when breeding comes nearly to a standstill.

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 2—8, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
2	Th	Worksop Horticultural Show.	71.0	47.6	59.4	19	15 af 5	44 af 6	16 af 0	33 af 4	26	0 32	245
3	F		71.4	47.7	59.6	19	16 5	43 6	19 1	1 0 5	27	0 51	246
4	S		70.7	46.8	58.7	19	18 5	40 6	32 2	59 5	28	1 10	247
5	Sun	15 Sunday after Trinity.	70.1	47.1	58.6	18	20 5	37 6	52 3	33 6	29	1 30	248
6	M	[and General Meeting.	69.7	46.7	58.2	20	21 5	35 6	16 5	2 7	●	1 5	249
7	Tu	Royal Horticultural Society, Fruit, Floral,	70.1	47.5	58.8	19	23 5	32 6	41 6	31 7	1	2 10	250
8	W	Royal Caledonian Horticultural Society's [show opens.	69.5	47.8	58.7	19	24 5	29 6	6 8	58 7	2	2 30	251

From observations taken near London during the last forty-two years, the average day temperature of the week is 70.3°; and its night temperature 47.3°. The greatest heat was 85°, on the 8th, 1865; and the lowest cold 28°, on the 7th, 1855. The greatest fall of rain was 0.70 inch.

ALPINE STRAWBERRIES.

IN flavour and size of fruit these are not commendable, but though the flavour is not high, and the size what we must call small, they afford a plentiful supply, and of longer continuance than any other kind of Strawberry; indeed the Strawberry season may be said to be over when the Alpines are coming in plentifully, and on that account alone they have a claim to our attention. And they have other claims. First, the flavour is peculiar—a sort of acidity that is not distasteful, but refreshing, more so than that of any other kind of fruit, always excepting the Cherry. Secondly, the birds do not attack them so much as other fruits; very few at most seem to satisfy them. Thirdly, they are the only kinds that can be depended on for autumn fruiting. I have had plants that began bearing in July producing fine fruit up to Christmas in a mild autumn and winter. The Perpetual Pine has lost its perpetual or autumn-fruiting qualities, at least, so far as I have experience, and the fact is confirmed by others; hence the value of the Alpine as an autumn and successional fruit to the kinds generally cultivated. Fourthly, a dish of Red or White Alpines set up with their own leaves is not less pretty than a pile of huge Goliaths. I think them very pretty, and even for ornament alone a good addition to the dessert.

The best plants are those raised from seed. They are more vigorous, less liable to suffer from drought, are more continuous-bearing, and more to be depended on for autumn supply. The best plants I ever had were from seed distributed by the Royal Horticultural Society ten or eleven years ago. Plants from runners are of too weak growth, the fruit after the first picking becoming small, and the runners they produce do not keep up the successional and autumn supply. With some sorts of Alpine Strawberries propagation by runners must be practised, as it is a ready mode, and all cannot have seed; besides, in seed-saving, the finest and best fruit must be sacrificed; but considering that plants from seed are the best, and bear the finest fruit both in summer and autumn, I strongly recommend this mode of propagation. In sowing seed we do not run the same risk of perpetuating plants which yield but small fruit, or are shy bearers, as we do when taking runners from a bed in which there are various degrees of vigour, size of fruit, and continuance of bearing. The plants propagated by runners seem to become weaker, and for anything I know may sink to an equality with the plants on a hedge bank. By taking the fruit of the most vigorous and most continuous-bearing plants, and sowing, we obtain plants fully equal to the parents; in no case have I known them inferior, for it is not species which run into all sorts of forms, and give so many useless ones, though there are at times great results, but the cross-breds. Not only do Alpine Strawberries come true from seed, but every generation shows a marked improvement in the majority of the offspring, and it is by this progressive improvement that I hope to see the Alpine yielding fruit of the size and flavour of such kinds as Black Prince, if not of Cockscomb. Autumn production and increased size of fruit from plants raised from seed, are not peculiar to the Alpine Strawberry alone; the autumn-fruiting Raspberry is influenced in the same way. The seedlings are in most instances finer than the parent, none, or few, producing inferior fruit.

The Alpine Strawberry succeeds best in soil overlying gravel, limestone, or in those medium textured loams that are neither heavy nor light, and have an open subsoil from which superfluous water passes away freely.

In light, open soils, Alpine Strawberries succeed with copious waterings in dry weather after they come into flower, and during bearing; but in heavy wet soils they do not thrive, at least, they do not with me. The plants are apt to go off in winter, and in soils of this kind I have found a raised bed advantageous. It may be formed of any kind of rough material, marking out a space about 8 feet wide, and raising, about a foot high in the centre, a mound of stones or gravel, which is covered with a foot thick of soil. This may consist of two parts loam, neither heavy nor light, enriched with one part of well rotted manure—old cow dung is best. All round I place bricks on edge, alternately headers and stretchers; and when I have formed a row all round, I have cavities which are filled with soil level with the upper sides of the bricks. I then place another row or tier of bricks as before, and so on to the top, or until the bricks from both sides meet in the centre of the mound. It may seem strange to employ bricks for such a purpose, and it may be thought that a raised mound would answer just as well. It does not, however; for the plants cannot be so well watered, the water running away too quickly by the surface, and this is prevented by the brick terraces, and the bricks keep the fruit from damping, as it is apt to do in autumn from the frequent rains. The spaces for the plants formed by the bricks are filled with soil, and one plant is planted in each. The situation should be open, and the ends of the bed ought to be north and south. In such a bed the plants continue bearing until late in autumn. Alpine Auriculas in heavy soils are quite at home in beds of this description, and Parsley thrives where, from the wetness and coldness of the soil, it is often not to be had in winter when most wanted. In most soils, however, such contrivances are not required, all that is needed being a good trenching, and manure liberally worked in. A border or bank facing south is not good, the plants grow best on an east border; on a north border they succeed very well for summer fruiting, and an open spot with the lines running north and south answers very well.

The seed should be sown in February or the beginning of March in a shallow box or pan, well drained, and filled with a compost of two parts loam and one part leaf mould, covering lightly with fine soil. Place the pan in a gentle heat of from 70° to 75°, keep moist and close until the seedlings are up, then admit air, and keep them near the glass; when large enough to handle, prick them off in shallow boxes or pans, employing a light loam, enriched with one-third leaf mould. They should stand about an

inch apart. Return them to the frame, and keep them close and moist, shading from bright sun for a few days until they recover, and are growing freely; then give them plenty of air, harden them well off by the beginning of May, and plant them out where they are to fruit.

In planting, three lines may be placed in a 4-feet bed at 14 inches apart, and the plants 1 foot from each other in the lines. The outside lines may be 6 inches from the edges, and 1-foot alleys being left, they will be 2 feet from the opposite outside lines of each bed. They may also be planted in lines 18 inches apart, and the plants 1 foot apart in the lines, putting in two lines, and then allowing 2 feet between these and the next two lines, which space will serve as an alley, affording access to the plants for gathering the fruit and watering. The plants should be lifted carefully, preserving the roots as far as possible, and a good watering given, which should be repeated in dry weather. Before the dog-days, the intervals between the rows should every year be mulched with short manure or leaf mould. This to a great extent prevents evaporation, furnishes a good material for the runners to root in, and watering carries down a portion of the nourishing matters of the top-dressing to the Strawberry roots. The better the plants are attended to with water the better they will grow. They will not bear much the first year, though in autumn they may afford a tolerably good supply.

For autumn fruiting in the first year, the seed ought to be sown at the end of January or beginning of February in heat, the seedlings pricked off when large enough, forwarded in heat, and hardened off by the end of April, when they should be planted out.

When the plants commence blooming, slates or tiles should be placed between the rows to prevent the dampness of the soil in autumn causing the fruit to decay. There is another advantage in the slates, besides preserving the fruit—they become heated by the sun's rays, and the fruit acquire a better flavour. The runners ought to be allowed to grow; they should not be cut off as they appear, for from them we hope for fruit in autumn, as well as from the parent plants.

Instead of raising plants from seed for autumn fruiting, runners of the previous year may be planted in March or the beginning of April, and treated like the seedlings, only they are not put under glass. For summer fruiting, and continuing the supply until autumn, the runners should be planted out when they become well rooted, and during the year in which they are produced by the parent plants. The trusses of bloom ought to be pinched off as they show on those planted in spring to furnish late autumn fruit, until August, as by allowing them to fruit before they become established we keep them weak, unable to give more than a moiety of autumn fruit.

Having the plants now established from seed or runners, in March I cut away all the runners not rooted, point the soil between the lines and around the plants, and give a top-dressing of rotten manure fully an inch thick. When the plants are coming into bloom give a similar top-dressing, and afterwards water copiously in dry weather. There is no necessity for putting down slates in summer or in the second year, for the crop will come in from July to the end of August. When the gatherings are becoming smaller—the plants are very sluggish in August, as most Alpines are from the drought—I take away any runners where too crowded, but not many, and top-dress again, putting the top-dressing neatly round the plants and runners, and give a good soaking of water then and every third day as long as the weather continues dry. I place some slates between the rows by the end of September, destroying some runners which would have fruited, no doubt, but for the slates; but any loss from this cause is compensated for by the fruit being prevented from decaying. The result the second year is plenty of fruit in July and August, the supply slackening a little at the end of the month; and from September to Christmas, if the weather is mild, I have fruit—not a dish every day, but very often, and might have a dish every day if a sufficient number of plants were grown.

In the third year trim and top-dress in March. Leave a good many runners at that time between the rows, and water well after they come into bloom. They will bear an immense number of fruit—small, but the finest of all for preserving, as they keep their form so well, and they are particularly desirable for glasses on the table. It is hard to tell whether the red or white are the more beautiful. After they have borne all the fruit they will in the third year, break up the bed, and plant the ground with anything except Strawberries, the most exhausting crop I know. To keep up a supply we must sow or plant every year, or not more seldom than every alternate year.

The following varieties, besides the Red and White Alpine, are the best—viz., Blanche d'Orléans, white; fruit larger than the White Alpine, which it must supersede. Brune de Gilbert, dark red, nearly black; it fruits abundantly in autumn, but is small. Galande, dark red; an abundant bearer, perhaps the best-flavoured Alpine.

If blight appear it is a sign that the watering is insufficient, or runs off by the surface without wetting the soil, as water often does on slopes. In this case holes should be made with an iron bar or rod, and the water given gently; by the exercise of a little patience the soil may thus be made thoroughly moist. The blight or mildew disappears when the soil becomes moist, and a good wetting overhead on the evenings of hot days will wash it off the fruit, and keep the latter from becoming deformed, and from not swelling; indeed, if the mildew be left to itself the blooms turn blind. Plenty of air, water, and a broiling sun are the delight of the Strawberry.

It may not be known that seedlings grown in 6-inch pots, placed in a frame early in November, always afforded air, but protected from frost, if removed to a light, airy house in December, and set on a shelf near the glass, will fruit in winter. Their handsome fruit and pretty foliage render them fine objects for table decoration, the red variety contrasting well with the white. The plants should be grown in partial shade until the end of August, have all blooms picked off, and then be potted in 6-inch pots, layering the first runners just within the rim, as a fringe all round. Set the pots in the full sun, and water well. The plants may be had in bearing throughout the autumn, and at any time you like by picking off the flowers six weeks before you want them. Remove all runners but those wanted for the fringe.—G. Abbey.

NOTES ON ROSES.

During the last few weeks I have had several exceedingly fine flowers from Roses grafted as standards on the Briar in March last, many of which are now coming into bloom again, and by the end of the autumn, should nothing unforeseen occur, will form excellent bushy heads. I am led to make the above remark from the observations contained in some letters I received after the appearance of my article on Rose-grafting in the open air on the Briar (see Vol. XVI., page 178), as the quickest and best method for obtaining good and lasting standard Roses, many persons expressing an opinion that if grafted instead of budded the flowers would deteriorate. This I have found not to be the case, but, on the contrary, some of the weaker kinds grow much better, and the top of the Briar being closed over, no insects make their way in and eat down into the pith of the stock, as with those budded.

I am fully aware that the stock on which a plant or tree is budded or grafted will, and does, often alter the colour of the flower or flavour of the fruit of the scion, and I have an instance of this. Two standard Roses (both budded) of Lord Raglan, have been producing quite distinct flowers in the way of colour; the flowers of one tree being of a deep reddish-coloured purple, while those of the other had much blue or violet. In all other respects they are similar. Possibly had these two trees been grafted, the grafting might have been urged as the cause. However, what I want to make known at the present time, is the perfect success of grafting Roses as standards on the cleft or wedge principle, which I have heard has been, and still is doubted.

My Roses have done well this year so far, thanks to Fowler's Insecticide, two syringings of which effectually cleared them of the aphis. I have also used it with some success for the yellow fungus on other trees.

Amongst my newer varieties, I purchased Maréchal Neil. This is the only Rose I can do nothing with at present. I have tried it on its own roots, on the Briar, on the Manetti, in the border, and against a south wall, and still it eludes my utmost endeavours to make it grow. Tea Roses, as a rule, do very well with me, but Maréchal Neil does not; it loses its foliage, and finally dies. I mention this, as I find others, like myself, have lost their plants. I shall try it once more worked on the Gloire de Dijon as a stock. This is my last hope.

As a white—a clear good white, I am much pleased with Boule de Neige, the habit is good, the petals thick, and it is of good form, though small, and with me it has been much admired. Xavier Olibo, Victor Verdier, Alfred Colomb, Duke of

Wellington, John Hopper, Rushton Radclyffe, Charles Lefebvre, and the old but not to be despised Baronne Prévost, have been grand this year.—HARRISON WEIR, *Weirleigh.*

ORCHARD-HOUSE FAILURES.

I THINK it redounds to the credit of orchard-house cultivators that they have given vent to so few jeremiads such a confessedly disastrous season as this. The absence of complaints argues a considerable amount of patience, and this is just as it should be. "The husbandman waiteth for the precious fruit of the earth, and hath great patience for it." But how much more patience is requisite when we have to wait two whole years instead of one! How largely have orchard-house growers had occasion to draw upon their stock of "sufferance"—the badge of all their tribe—during a season which, to the majority of them, has proved barren of all fruitful results! They may truly say with Mark Tapley, that there is some credit in being jolly under such depressing circumstances. Should, however, the disappointment have proved too keen to any brother amateur when surveying his fruitless boughs, to admit that he has escaped what he may deem a very pardonable amount of chagrin, I would hope to administer balm to his spirit by the suggestion of two considerations. The first is, others are rowing in the same boat. Disappointment has attended human endeavour time out of mind. If even Solomon, after having made him gardens and orchards, and planted trees in them of all kinds of fruits (and oh, what gardens, what orchards must his have been!), yet acknowledged when he looked on these, that behold all was vanity and vexation of spirit, surely we, who cannot boast of his wisdom, who live in a colder climate than he enjoyed, and who, even in glass houses, have tenfold more chances against success than he had, should not be surprised at a failure for once in our lives, or suffer ourselves to be too much cast down by unavoidable misfortune. The second consideration is one that applies to young cultivators rather than those who have possessed orchard houses for several years. Depend upon it, Nature has done the best thing that could have possibly happened to you. You know you never would have had the heart to have stripped your young trees of their embryo fruits. But they will bear all the better another year. Remember how honest Will Shakespeare represents John of Gaunt as saying—

> "Teach thy necessity to reason thus—
> There is no virtue like necessity:
> Think not the king did banish thee,
> But thou the king."

Which I parody thus—

> Think not that Nature haulks thy fond pursuit,
> But thou thyself hast wisely thinned thy fruit.

Would any one of us surpass Solomon in wisdom? Then let him meet reverses without sharing his vexation of spirit.

Honour, all honour, to those who, in spite of sullen skies, have retained their own serenity of spirit—who, in the face of a dearth of Peaches and Nectarines this year (but not of Apricots; with me they have been plentiful), have themselves brought forth the precious fruits of longsuffering and of patience—who have prosecuted their daily routine of orchard-house labour, pinching, root-pruning, syringing, and watering, just the same as though their trees were well laden with fruit, in anticipation of better luck next year. And honour to those also who, in a manly spirit, have candidly owned to a failure this year, yet fully assured that the well-established principles of orchard-house culture are not in fault, but that the general failure is to be attributed to circumstances beyond control, and so exceptional as to be likely to occur only once in a lifetime. My friends come to me and say, "Well, Mr. So-and-so, how does your orchard house answer this year?" I reply, "Fishermen sometimes come home with empty creels, and I confess to a failure this year." "Indeed!" say they, somewhat superciliously, "but we thought that glass insured a remunerative crop." "As a general rule," I rejoin, "it does. But there is an exception to every general rule. Have you considered," I ask, "what we have had to contend against? Last summer our trees fainted under a long continuance of tropical heat, very prejudicial to the proper ripening of the wood, and causing likewise a scarcity of water." And then (remembering how old Socrates used to floor opponents by asking embarrassing questions—questions the obvious answers to which proved the case against them), I proceed to inquire, "How would you like, after a long day's grouse-shooting in this August temperature, to get no sleep? or, just as you were comfortably snoozing off, to be awakened by an alarum in your ears, or some other horrid sound, and after such a night as that to have to renew your sport for another sultry day, as though nothing had happened to mar your rest?" "Not at all," responds my friend. "Well, then," say I, "that is just what our poor trees have had to do. Not only had they to endure last summer's baking, but root action was kept up to a late period in the autumn—in other words, they could not go to sleep. They had no rest all last winter; or, whenever they did get a ghost of a nap, some fine genial sunny morning, when it ought to have been snowing, woke them up again. Then, poor things! they did all they could. They put forth a rich profusion of bude and blossoms, and I fully believe they quite intended keeping the fair promise which those blossoms indicated, even to their own prejudice, but a cold ungenial spring set in, and those smiling blossoms could make no progress. They remained on the trees, looking very pretty, but almost in a dormant condition, for a longer period than usual, during all which time the bleak east wind prevailed; the consequence being, that when they should have set the blossoms fluffed off, as my brother, writing from Horsham, classically expressed it. It was not that the frost penetrated the glass and nipped the blossoms—no fear of that; but the cold depressing weather lasted so long, that the blossoms sank under it, the flower perished, and so the fruit failed."

I believe you invite your correspondents to record their own experience as regards orchard-house culture, and so I will just add a line to say, that although upon the whole I must class myself with those who have failed to bring much fruit to perfection this year, yet I can show some very fine samples of fruit, especially on one or two of my triple cordons, which have been treated according to directions furnished in Mr. Bréhaut's invaluable work on that system, the perusal of which I cannot too strongly recommend. My crop of Grapes is very satisfactory. Many bunches have now coloured. I cover them in muslin bags, which will protect them from wasps, but not from rats. Rats, by-the-by, would make excellent judges of the flavour of Grapes. They always attack the best first; and I cannot blame them, for I know I should do just the same had I been born, as Sam Weller would have said, in that station of life. I have a Peach tree on a west wall outside my house, the fruit of which has in two former years carried away the first prize at a fruit show. It has fifty Peaches on it, which promise to be remarkably fine. I did not give any protection to this tree last spring, but by a thorough fumigation destroyed all the aphides. I am convinced that an early fumigation is one of the chief things to be attended to both in-doors and out, but is very often omitted until too late. Some of my trees, I am sorry to say, are afflicted with mildew, and this is a disease which at present baffles my skill.

In my miniature orchard I have a fair crop of Apples, Pears, and Plums. With regard to the latter, it is quite a sight to see the lady birds preying upon the innumerable aphides. They go at it *con amore*, and I only wish that butchers' meat (at this season when it wo'n't keep), were as tender as those delicate morsels seem to be—I mean the aphides, not the lady birds. Some ignoramus the other day in a newspaper spoke of "the plague" of lady birds. Plague, indeed! How little he knew with what exuberant feelings of joy the Hop-grower welcomes an immigration of those red-jacketed beetles, or with what exquisite delight an orchard-house grower observes them making a raid upon the "varmint" that infest his trees. "They seem jolly hungry," my boy said to me as he viewed them through a microscope. "Yes," I said; "they must have fasted when they came across the sea." I hope they may long continue to enjoy the same hearty appetite, and that they may be troubled with no dyspeptic consequences.—A CONSTANT READER, *Herts.*

LOUISA SMITH TRICOLOR PELARGONIUM.

"AFTER all, is there anything better for a bed amongst the Tricolors than Mrs. Pollock?" is a question often asked in a very triumphant tone by those lovers of old times who always like to disparage novelties. It has been difficult to answer it, inasmuch as the high price at which these Pelargoniums are sold, has prevented persons from trying them in a mass. I am, however, now enabled to assert, that in every respect Mrs. Pollock is distanced by Louisa Smith; the latter is brighter in the yellow margin, smoother in leaf, and twice as good a grower, and I would advise all who wish to have a good Tricolor

bed to plant it. It will beat Lady Cullum, for, brilliant as the latter is, there is too much dark brownish crimson in the leaf to make it as effective; it wants lightiug up.—D., *Deal.*

LANCASHIRE GOOSEBERRIES.

The Gooseberries I sent are not show berries, but are all from the garden of James Matthews, of Hinsted, between Littleborough and Rochdale, and are very fair specimens of the average of fruit in a well-cared-for Gooseberry garden. The grower took a copper kettle with some from Companion, and 9s. with some from Garibaldi, on Saturday, July 31st, at the first Gooseberry show of the season. It was held in a public-house in Milnrow, Tim Bobbin's birthplace. The highest prize given there is a pan, the second a kettle, and so on through a great number of decreasing money prizes. I think I am right in saying that four colours are shown, and eight kinds in each. The winner of the pan can only take six other prizes. The best show of the season, one open to all England, is held at "The Falstaff," a public-house in Market Place, Manchester. The competitors all meet there on August 7th, I believe at noon, and each opening his box, the specimens are measured and weighed before all; they are then topped and tailed, to ensure their not being shown again, and put in open dishes, and the public are admitted. The berries after the show here are the property of the landlord. It seems that all these shows are held at public-houses, and in other places begin at four in the afternoon.

The trees are pruned of their middle branches, and trained so as to allow a free current of air amongst the branches, which are bent or tied, so as to be uniform in growth, all buds near the base of the stem being nipped off. The berries are early thinned according to the fancy and ambition of the owner, some taking almost all off; others, as in the case of the grower of these specimens, merely thinning them sufficiently to prevent the wind knocking the berries against each other. Some grow them in little glass globes with a very small hole, into which the Gooseberry when quite small is introduced, but these are few; some grow them under shades of various sorts; all protect them from the north wind. With some kinds of berries the old tree is chosen for the show fruit, with others the young; in all the shoots of the last year bear the best fruit. Some kinds require stronger manure than others, but all that is used must be well rotted. Some use blood; but as the roots grow wide and not deep, such rich manure as would be used for the Vine or the Plum is to be avoided. Books are written on these shows, which are only to be had by the grower. The real Gooseberry showers do not send their fruit to mixed shows, nor is the prize fruit to be bought.

I could not get the show Gooseberries at the show of August 7th, so send some of the largest of the rejected that I could obtain at the show. I sent old John over to see it, and his account was racy. I asked him if it was a sort of thing I could have gone to. "Yes," he said, "it was as husht as a chapel. A route of folk cowered down on benches all round th' room, and the landlord tappit on the table if onybody stirred, and then he and the judges weighed and measured the berries in things on purpose, and turned them all sei, and if there was a spot, or a mark, or aught it would naw do. One man had brought one weighed 39 pennyweights, and were 7 inches round, but it were just a bit burst. The biggest wiout blemish were 27 pennyweights, and 5 inches. Man as took that had a route more same sort. I said, 'I'm a man as knows a Gooseberry when I sees it, and what's fair for it; win you sell ony?' He says, 'Well, you're a man as I never sot ees on afore. I've friends who'll want all as there is, or I'd have let you have some.' Another chap said, 'You shaw ha all I have for half a sovereign' I said, 'Dun yo think I'm a foo, mon?' But if you could ha seen show berries, missus, you wouldn't have lookit at these." I said, "Did you get any fresh information about the growth? Did that man with the big one tell you how he managed his?" "I'll tell yo what, missus, if you want to get aught out of a gardener, yo win get a mon wi wits and ma him fun wi driuk afore he'll tell yo aught. Biggest I ever had were 6 inches, and weighed 35 pennyweights and a bit over."

That is John's account as truly as I can render it, John's tongue loosened by moderate imbibing.

The year is a bad one for Gooseberries. The largest are grown in Nottinghamshire, the next in Yorkshire and Cheshire, the next in Lancashire, I think, since these last are from Cheshire. The first I sent were from about the coldest Gooseberry garden I know of, the last were not so very much better. I put them by the side of Green Gages and other Plums, and the Gooseberries were the largest. John adds, "Landlord had a room o' purpose, boards as white yo mit a eaten on them, and glass cases for berries. He would ha let yo have some wi ā' pleasure in the world, he said, but they mon hide there for volk to see, till Tuesday or so," by which time I think they would not be worth much, judging from the specimens at the Horticultural Society's Fruit Committee.—V.

BEGONIA WELTONIENSIS.

Those who examined the new and rare plants at the last Regent's Park Show could not fail to notice this hybrid Begonia in the collection exhibited by Messrs. A. Henderson and Co., of the Pine Apple Nurseries, and which was awarded a first-class certificate of merit. I had previously purchased the plant under the name of Begonia Clarkei; and I now wish to call attention to it as being one of the most useful, if not the most lovely, of the varieties that I am acquainted with. Its foliage is a bright glossy green, while contrasting favourably with this is the almost blood-red colour of the stem and veins of the leaves. The bloom is in trossee of four or five bright rose-coloured flowers, coming freely from every shoot. The plant bears stopping well, and produces vigorous shoots at every joint; but without this stopping it has a dwarf compact habit of growth, its foliage is very attractive, and the plant thrives as well in small as in large pots.

The decorative qualities of this plant, which can be brought to perfection in a warm greenhouse temperature, make it a most valuable addition to the stock of a large class of cultivators; for many of these have been prevented, through the amount of heat required, from enjoying the beauty of Begonias. I tried a few plants for winter flowering in the conservatory last season, and was so much pleased with it as to be induced to grow it largely for that purpose during the coming winter. It would be difficult to find a more suitable one as a dinner-table or drawing-room plant. It is easily kept through the winter, and my plan is to throw away all but half a dozen plants, which may be taken out of the pots and stored away, like Dahlia roots, in dry earth on a damp bottom until wanted in spring. They should then have all the old soil shaken from them, be potted, and placed in any structure affording an intermediate temperature, when the stools soon put forth shoots.

If a stock of plants be wanted, make cuttings of these, and strike them in sandy peat soil, sifted fine, in a gentle heat. After they are rooted pot them singly in 4-inch pots, using for a compost two-thirds turfy loam, the remainder peat, silver sand, and dried cow dung; this dung must be sifted through a fine-meshed sieve. Of course if larger plants are wanted potting and stopping must be attended to, but they will grow into very fair-sized and useful specimens in 6-inch pots. When growing, they like a good share of moisture both at the roots and branches.

I have not been without a number of this useful plant in bloom for more than twelve months, and its beautiful foliage and flowers have performed no unimportant part in the decoration of flower-stands, vases, and épergnes. From its usefulness and easy culture I expect it to become a general favourite. It is very cheap, being catalogued at 5s. per plant.

I have an idea that Begonia weltoniensis will be useful in the subtropical department of the flower garden, and for outdoor vases or rustic baskets. Should anyone be trying it in this way, I hope to hear more about it at the end of the bedding season.—Thomas Record, *Hawkhurst, Kent.*

SUPPLY FROM A KITCHEN GARDEN.

I can fully sympathise with "A Perseverino Gardener's" complaint in page 125 respecting the limited space of ground from which he is expected to supply a family of eleven persons, for I am placed under similar circumstances.

My garden is 103 yards in length and 28 yards in width, running north and south, and its numerous disadvantages are death to many crops. On the east side and two ends are walls, on the west side a fence. Within the boundary there is a walk 5 feet wide which takes up a large extent of ground. The soil, too, is a light sandy loam, very shallow, and resting on chalk and gravel. On the east side, 35 feet from the wall, is a wood of some hundreds of acres. On the west side, at 30 feet from the fence which divides the kitchen garden from the pleasure grounds, stand on the lawn several huge Elm trees, thrusting

their roots into the kitchen garden, and especially into the Asparagus bed. The family and servants whom I have to supply are ten in number, and with company the average number supplied with fruit and vegetables through the summer has been eighteen persons. How is it possible for a gardener with so many disadvantages to give satisfaction to employers, who expect the same delicacies in small gardens as in those of much greater extent, with position and soil good, and every means favourable to securing abundant crops? This is a point I should like to see urged with proprietors, and possibly if an improvement could be effected gentlemen would not hesitate. These improvements would generally be enlarging the garden according to the wants of the family, making the soil good where required, and if practicable, felling all huge trees that are too near the garden.—A GARDENER.

VEGETABLE MARROWS, MARROW PEAS, AND APHIDES.

[THE following is in answer to "CONSTANT READER, *Croydon*," who complains that his Vegetable Marrows turn yellow and die off when 2 inches in length, and that his Marrow Peas are destroyed by aphides.]

I WOULD undertake to grow Marrow Peas and Vegetable Marrows to perfection at Croydon, as I know the place, and the texture of its soil. As to the myriads of aphides, for this exceptional season they must be left to the lady birds, which by the time this appears in print will most likely have devoured them all. The lady birds have done so here, in concert with another more gay and lively set, the horizontal-winged Syrphidæ, and most thankful am I for their appearance. I remember in the autumn, some few years ago, just such a flight of the black aphis—a neighbour told me he could scarcely see to drive along the road for them—and in this garden they settled more especially upon the Convolvuluses, and the Peach and Nectarine trees. I could now point out Peach and Nectarine trees in my neighbours' gardens, where the aphides were allowed to remain undisturbed, and which are still mere skeletons. I syringed my own trees, and the Convolvuluses, with house sewage heated to 120°; that settled the aphis, and saved my trees, and I think I can now say without boasting, that I can gather very fine fruit. Heated sewage is my remedy for aphis, red spider, and mildew. Its smell is unsavoury, and as something less objectionable, though effectual for destroying aphis, Pooley's tobacco powder could scarcely fail to be acceptable.

Now, with regard to the Marrow Peas not coming to perfection, and the Vegetable Marrows casting their fruit, these disappointments may be avoided by adopting the following system of cultivation:—Depth of soil is the first requisite for both crops; therefore, bastard or half-trench the ground. If for Peas, make a mark or line up the middle of the piece of ground; then at one end of the line to one side of the half of the ground, measure for a trench 1 yard wide, and cast out the soil opposite the end on the other half of the ground, taking out the soil one spit or spade deep, also the shovellings, or loose soil. With a Foster's patent fork break up the bottom spit or subsoil thoroughly, and allow it to remain at the bottom. Before we dig any further, wheel a part of the large heap of manure or compost, which in all well-regulated gardens is being constantly collected, and further enriched by the addition of house-slops, soapsuds, &c., and place as much of it as one can afford—a wheelbarrow load to a square yard may be considered quite sufficient—over as much of the ground as is likely to be trenched in one day. Spread evenly over the surface of the soil sufficient for a trench at a time; to spread at once the whole bulk over the surface would be to allow the sun and air to dry the manure, and to half-spoil it by driving off the ammonia. Attention should be paid to this point in applying all manures. Now shake enough of the roughest of the manure into the trench, measure another trench, and fork the top spit on to the bottom one previously broken up, and the shovellings on to that, taking care in so doing that the manure is well apportioned throughout the mass; fork up the bottom again, and so on till the work is completed to opposite the trench that was first made, where the top spit first thrown out is found quite ready to fill up the last trench. If fruit trees have been planted in the centre of garden quarters, do not dig within the drip of their branches, and as their roots are cut off up to that boundary, smooth the wounds with a knife; this will make the roots throw out young fibres and do good rather than harm. Always reserve the emptyings of the dry-earth-closets to be used on these special trenching occasions.

Having thoroughly prepared the ground, you may sow your Peas thinly, and anticipate grand results, especially if in dry weather thorough soakings of sewage from the house tank be occasionally given to the rows. There will not be the slightest chance of stunted growth, aphis, or mildew, where the above mode of proceeding is adopted.

Next with regard to the Vegetable Marrows. Of course, the proportion of ground for them would be very small in comparison to that required for the Peas. I shall suppose a warm corner sloping to the south, measuring, say 12 feet by 6 feet; or if in the open what matter? Trench and thoroughly manure the allotted space as for the Peas, and this alone will generally be satisfactory for their cultivation; but if in addition some or all of the following ingredients can be had (especially the rotted turf and charred refuse), and laid so as to form a slope 2 feet high at back, and 1 foot high in front, so as to catch the sunshine, doubtless greater results will be obtained. My last surfacing for the purpose was formed in the proportion of a cart-load of rotted turf, two bushels of charred and coarse wood ashes, three barrowloads of leaf mould, three barrowloads of thoroughly rotted horse manure, and half a dozen shovelsful of soot, the whole thoroughly mixed. We were surfeited with Vegetable Marrows. At the end of May, form two small hillocks at 2 feet from each end, and midway between the sides of the bed, as I shall call it, and place in the crown of each two young plants, either raised in a cool frame, or obtained in any other way; but if plants are not to be had, sow three or four seeds on the top of each hill. Shade the plants from the sun, and protect them from cold winds, and both for plants and seeds keep the ground sufficiently moistened with warm soft water, if it be necessary. If seed be sown, the young plants will come up in a few days. If three seedlings germinate in each hillock, thin them out to two, and by a little management and shading, their rough leaves will soon be of no further use, as young shoots will begin to start from the hearts of the plants. As soon as they can be taken hold of, tenderly pinch the hearts from out of two of the plants, one on each hill, and allow the others to grow without stopping. The plants will now be showing a length of bare stem which is not good for them, so place a little reserved soil round them, and press the stems gently outwards, and in so doing away from each other. This will not only encourage them to emit fresh rootlets, but will prevent their being too close together. Young roots will soon appear at the circumference of each mound; cover them with a few inches thick of the reserved soil, and so on till the bed is quite levelled.

As the runners of the unstopped plants advance, fix them to the soil with hooked pegs, or train them to a fence, if such is intended to be covered for ornament. The plants which were stopped will soon show a disposition to fruit upon the laterals, which spring from the bases of the leafstalks; with small hooked pegs fasten down the laterals on the top of the soil, and they will generally produce roots at their joints. The blossoms, male first, and then the female, will next claim notice, and the setting of the fruit would be rendered more certain if the female flowers were artificially fertilised. This is especially worthy of "CONSTANT READER'S" attention.

As the plants continue growing, do not let their shoots become too crowded. A young shoot will appear at the base of every leafstalk, and if all were allowed to grow they would weaken the plants at the expense of the fruit, which would to a large extent fall off prematurely. Two feet of space should be allowed between the main stems, and the superfluous laterals springing from these should be completely pinched out from the bases of their leaves to a foot distance from each other. Do not interfere with the large leaves, except to carefully pinch off a few now and then where too crowded for the free access of light and air to the soil; or, in the case of their acquiring a yellow tinge, when the plant's bearing powers are becoming exhausted. When a fruit is fairly set on a lateral, pinch off the head of the lateral, and in a few days the fruit will arrive at perfection, and the shoot will push again, and bear more, or, according to judgment, may be cut away. Thus the juices of the plant and the action of the leaves are devoted to fruit-producing, but the case is different with plants which are allowed to grow unchecked for ornament, and upon which very few fruit may be anticipated.

If dry weather prevail, water the plants thoroughly every evening with water which has been allowed to stand all day in a tub exposed to the sun, for they require a large amount of

moisture, and hard cold water stunts or kills them. Use soapsuds or sewage water sometimes, and let both be mixed with an equal quantity of clear water; but do not wet the leaves with the mixture more than is unavoidable. Water the soil between them equally and steadily from the long spout of the watering-pot, and not very near the places where the main stems start from the soil, as gangrene and canker very often follow that bad practice.

The above system may also be adopted for ridge or any other Cucumbers.—Upwards and Onwards.

ADULTERATION OF SEEDS BILL.

It is well known that a practice has been in use for many years past of mixing good seeds with seeds the vitality of which has been destroyed for the purpose of adulteration and profit. So general and extensive had this become, that even the seed trade itself regarded it as a scandal, and honourable men connected with the trade shrunk from a system which through custom and competition they were compelled in self-defence to follow. It mattered not how desirous a few individuals may have been to escape from this dishonourable course and to sell genuine seeds; it was practically impossible for them to do so, so long as others with whom they were brought into competition could undersell them with seeds which were to a large extent adulterated. The public, ignorant of these matters, naturally buy where they can do so cheapest, regardless of the maxim, that "the cheapest is not always the best," and acting on that principle of buying in the cheapest market, the public have themselves been active accessories in encouraging this system of "doctoring seeds." To such a pass had this practice reached, that some of the active members of the seed trade bestirred themselves with a determination to rid themselves of the reproach of systematically deceiving the public, and the result has been the passing of a bill in the last session of Parliament (32 and 33 Vic., chap. 112), rendering it penal after the 1st of May next, to infringe the clauses of the Act, which is as follows:—

AN ACT TO PREVENT THE ADULTERATION OF SEEDS.

Whereas the practice of adulterating seeds, in fraud of Her Majesty's subjects, and to the great detriment of agriculture, requires to be repressed by more effectual laws than those which are now in force for that purpose:

Be it therefore enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lord Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. This Act may be cited as "The Adulteration of Seeds Act, 1869."

2. In this Act—

The term "to kill seeds" means to destroy by artificial means the vitality or germinating power of such seeds:

The term "to dye seeds" means to give to seeds by any process of colouring, dyeing, sulphur-smoking, or other artificial means the appearance of seeds of another kind.

3. Every person who, with intent to defraud or to enable another person to defraud, does any of the following things—that is to say,

(1.) Kills or causes to be killed any seeds; or,

(2.) Dyes or causes to be dyed any seeds; or,

(3.) Sells or causes to be sold any killed or dyed seeds, shall be punished as follows—that is to say,

(1.) For the first offence he shall be liable to a penalty not exceeding £5:

(2.) For the second and any subsequent offence he shall be liable to pay a penalty not exceeding £50.

Moreover, in every case of a second or any subsequent offence against this Act, it shall be lawful for the court, besides inflicting upon the person guilty of such offence the punishment directed by this Act, to order the offender's name, occupation, place of abode, and place of business, and particulars of his punishment under this Act, to be published, at the expense of such offender, in such newspaper or newspapers, or in such other manner as the court may think fit to prescribe.

4. Any forfeiture or penalty under this Act may be recovered, enforced, and applied as follows:—

In England, before two justices of the peace in manner directed by the Act of the session of the eleventh and twelfth years of the reign of Her present Majesty, chapter 43, intituled "An Act to facilitate the performance of the duties of justices of the peace out of sessions within England and Wales with respect to summary convictions and orders," and any Act amending the same.

In Scotland, in manner directed by the Summary Procedure Act, 1864, and any Act amending the same, or by any police or other Act for the time being in force in any place, and providing for the recovery of forfeitures and penalties.

In Ireland, in manner directed by the Petty Sessions (Ireland) Act 1851, and any Act amending the same; and in Dublin by the Acts regulating the powers of justices of the peace, or of the police of Dublin metropolis.

Any jurisdiction by this section authorised to be exercised by two justices may be exercised by any of the following magistrates within their respective jurisdictions—that is to say,

As to England, by any metropolitan police magistrate sitting alone at a police court or other appointed place, or by the Lord Mayor or any alderman of the city of London, sitting alone or with others within the said city.

As to Scotland, by the sheriff or sheriff substitute, or by any police magistrate of a burgh.

As to Ireland, by any one or more divisional magistrate of police in the police district of Dublin, and elsewhere by one or more justice or justices of the peace in petty sessions.

The term "court" shall include the justices, magistrate, or other person or persons before whom proceedings may be had for the recovery of any forfeiture or penalty.

5. In any proceeding for any offence against this Act, it shall be sufficient to allege that the party accused did the act charged with intent to defraud or to enable some other person to defraud, without alleging an intent to defraud any particular person or an intent to enable any particular person to defraud any particular person; and on the trial of any such offence it shall not be necessary to prove an intent to defraud any particular person, or an intent to enable any particular person to defraud any particular person, but it shall be sufficient to prove that the party accused did the act charged with an intent to defraud, or with intent to enable some other person to defraud, or with the intent that any other person might be enabled to defraud.

6. In England, where the person who is convicted under this Act thinks himself aggrieved by the conviction, such person may appeal to the next court of general or quarter sessions, held not less than twelve days after the day of such conviction for the county or place where the conviction is had, in manner and upon the conditions in and upon which a person aggrieved by a summary conviction under the Act of the session of the twenty-fourth and twenty-fifth years of the reign of Her present Majesty, chapter 96, may appeal in pursuance of the 110th section of the said Act.

In Scotland and Ireland, in like cases as in England, an appeal shall lie in manner in that behalf provided by the law of Scotland and of Ireland respectively.

A summary conviction under this Act in England shall not be quashed for want of form, or be removed by certiorari; and a warrant of commitment on any such conviction shall not be held void by reason of any defect therein, if it is therein alleged that the person therein named has been convicted, and there is a good conviction to sustain the same.

7. Every complaint under this Act against any person in respect of selling or causing to be sold any killed or dyed seeds shall be commenced within twenty-one days from the time of the commission of the offence complained of.

8. Whenever any complaint is preferred against any person under this Act, and the court upon the hearing thereof determines that it is not *bonâ fide* made upon reasonable and probable cause, it shall be lawful for the court in its discretion to direct and order that the prosecutor or other person by whom or at whose instance such complaint has been preferred, shall pay unto the accused person the just and reasonable costs, charges, and expenses, to be settled by the court, of such accused person and his witnesses, occasioned by or consequent upon the preferring of such complaint; and upon nonpayment of such costs, charges, and expenses within fourteen days after the date of such direction and order, it shall be lawful for the court to enforce payment of the same in the same manner as if such costs were a penalty incurred by the person liable to pay the same.

9. Nothing in this Act contained shall prejudice or affect the power of proceeding by indictment or libel in respect of any offence herein provided for, nor shall any proceeding, conviction, or judgment to be had or taken under the provisions hereof against any person prevent, lessen, or impeach any remedy by civil process at law or in equity which any party aggrieved by any offence against this Act might have had if this Act had not been passed.

10. This Act shall commence and take effect on the 1st day of May, 1870.

A bulky blue book has been published with the whole of the evidence taken before a committee of the House of Commons on the subject;* but as this alludes merely to Clover and other agricultural seeds, we confine our extract to that part which refers more immediately to garden seeds. The following is the evidence of Mr. Burnell, of Waite, Burnell, and Co., and next week we shall give that of Mr. D. Nash, of Minier, Nash, & Nash.

Evidence of Mr. John Thompson Burnell.

Chairman.—You are a member of the firm of Waite, Burnell, Haggins, & Company, of Southwark Street?—Yes.

* The members of the Committee were—Mr. W. Earle Welby (Chairman), Mr. Henry Brand, Sir Michael Hicks Beach, Bart, Mr. Shaw Lefevre, Mr. Collins, Mr. Cross, Mr. Norwood, Mr. M'Lagan, Sir Henry Selwin-Ibbetson, Bart., Mr. Morrison, Mr. Cogan, Mr. Backhouse, Mr. O'Neill, Dr. Playfair, and Mr. Pelt.

Are you the senior partner in that firm?—I am the active partner in the firm.

May I ask how long you have been in the business?—Our firm has been in business about five years. I have been in business about twenty years: fifteen years, with my step-father, the late Mr. Waite, and five years as the active partner and manager of the present firm.

You do, I think a very large trade?—Yes.

Probably one of the largest in London?—About one of the largest.

Is your trade confined to the United Kingdom?—No; our trade is in England, Ireland, Scotland, Wales, America, and in various parts of the world.

I think, also, that your business is not confined to any one description of seeds?—We are not largely engaged in the Clover seed trade. I do not profess to be an authority on the Clover seed; our trade is principally confined to Turnip seed, Mangold Wurtzel, and garden seeds generally; Clover seed, Flax seed, bird seed, and seeds of those kinds, we do little or nothing in.

Have you for some time past set your face against these practices of adulteration?—As far as I have been able to do so, I have.

Are you able generally to confirm what Mr. Sharpe and Mr. Kennedy have told us as to the practice of killing and colouring seeds?—Generally, I think that I can confirm all that was said by these gentlemen.

Particularly as far as regards Turnip seed?—Yes.

And that that has been the practice for many years past?—It has.

In fact, as long as you have been acquainted with the trade?—Yes.

Should you say, generally, that the large wholesale houses are anxious to get rid of the practice, but have it forced upon them by the competition that they have been subjected to?—I should say that they are very anxious to get rid of it.

I think that you are one of the gentlemen who signed a memorial on the 22nd of June to the President of the Board of Trade?—I did sign it with great reluctance.

Will you just look at that, and see if it is a correct copy (*handing a paper to the Witness*)?—I should say that this is a copy of it; I was the last to sign it; and my reason for signing it was, simply, that there should be unanimity among the Loudon seedsmen. Although I signed it, I certainly had a strong opinion that the memorial, so far as the bill is concerned, would be of very little good indeed.

Will you read that memorial?—"To the Right Honourable John Bright, M.P. Adulteration of Seeds Bill. London, 22nd June, 1869. Sir,—We, the undersigned seed merchants, beg respectfully to suggest that from the difficulty of proof that genuine seeds have been mixed with killed or dyed seeds, and that deficiency of growth may arise from unfavourable seasons for maturing seeds, bad harvests, or heating in the stack. It would simplify the bill and render it much more effective by expunging the clauses 4 and 5; this would afford protection to the merchant against being charged by any unprincipled party 'who could not pay his account, or the market had gone against him,' with having sold adulterated seed. That in clause 7, for whosoever shall be convicted 'of any offence against this Act,' substitute 'of killing or dyeing seed, or knowingly shall import killed or dyed seed.' Thus altered the clause would read, 'Whosoever shall be convicted of killing or dyeing seed, or knowingly shall import killed or dyed seed, shall, for every such offence,' &c. This would, in the opinion of the undersigned, effectually put an end to the manufacture of killed and dyed seed, as no party would like to subject himself to being informed against by any person who is or may have been in his employ. We have the honour to remain, your very obedient servants, Minier, Nash, & Nash, 60, Strand, London; Rutley & Silverlock, 412, Strand; Fraser, Goad, and Ratford, 82, Bishopsgate Street Within; James Carter & Co., 237, and 238, High Holborn; Hurst & Son, 6, Leadenhall Street; Charlwood & Cummins, 14, Tavistock Row, Covent Garden; Henry Clarke & Sons, 39, King Street, Covent Garden; Robert Cooper, 152, Fleet Street; Beck, Henderson, & Child, 221, and 222, Upper Thames Street; Waite, Burnell, & Co., Southwark Street, S.E.; Nutting and Sons, 60, Barbican, E.C." Will you allow me to say that Messrs. Nutting & Son were not present, but they signed the memorial after the meeting?

Are you still of the same opinion as is expressed in that memorial, as to the difficulty of detecting killed seeds?—No, I am of a contrary opinion.

In fact, then, you agree rather with the evidence that has been given to this Committee that the presence of killed seed can be detected with great facility and certainty?—Yes.

And do you still hold the opinions expressed in that memorial, that the bill would, with the clauses 4 and 5 expunged, be effective for all the purposes for which it is desired?—I did not agree with that memorial at all. I signed it merely that there should be unanimity amongst the London seedsmen; but I do not agree that the omission of those clauses would be effective.

If the bill was confined to the third clause simply, the killing and dyeing of the seed, it would virtually result merely in a transfer of the scene of adulteration?—Yes, it would amount to this, that once get killed seed by any means, and let it pass through two or three dealers' hands, it would then come into the hands of the mixer, the person who would mix the seed, and I take it that you could not then convict that man for selling mixed seeds.

With regard to including dead seed in the provisions of the bill, did you hear the evidence that was given by Mr. Murray?—Yes; but I could not follow it exactly.

Perhaps you have not had an opportunity of seeing that evidence since?—I have not.

To put it shortly, are you of opinion that it would be possible to compel the seller to give a guarantee that his seed should germinate a certain per-centage, and to make him liable to a penalty if it did not come up to that per-centage?—I think that it would be utterly impossible, because some seeds in the autumn may produce a good growth, say 90 per cent., or 80 per cent., or any given per-centage, and in the spring the same seeds very likely would fall off in growth; so that if we were to give a guarantee with each parcel, we should have to try our seeds every week, and even then one could not be quite sure.

In fact, you would say that that was not the suggestion of a practical man?—It is quite impracticable.

We have had a great deal of evidence about Turnip seed and Clover seed; but I should like to ask you whether there are any other vegetable seeds in which this practice of adulteration exists to any extent?—Yes; Cabbage seed, Broccoli, Cauliflower, Kale, and all round seeds, the killed seeds of which could be easily detected, as in Turnip seeds.

And do you think that the injury to the consumer by the adulteration of them is as large in proportion to the extent of the seed used as it is in the branches of which we have heard so much?—I should say more so, because take, for instance, Cabbage and Cauliflower; the seeds are sown in beds for plants, and all those plants are wanted, either for transplanting where they are to become vegetables, or to sell as plants, and, of course, the fewer the seeds which grew the fewer the plants; consequently, the loss to the gardener would be greater in proportion than in the case of Turnip seed.

You mean that in the case of a field sown with Turnip seed, if 70 or 80 per cent. comes up, it is probably sufficient for the farmer for practical purposes?—Yes.

But that in the case of a market gardener he requires 100 per cent.? He requires all the plants he can get from the seed.

Mangold Wurtzel is an important seed in agriculture; is that adulterated within your knowledge?—It is adulterated.

By what means?—Common kinds, of Sugar Beet, for instance, may be killed and mixed with Mangold seeds, or a bad stock of Mangold Wurtzel may be killed and mixed with a better kind. I think that is about all I know of it.

Should you say that Mangold Wurtzel seed is regularly adulterated every year, or does it vary according to the season?—It would vary according to the season, because some Mangold Wurtzel in a bad autumn is of a very inferior quality indeed, and, in fact, we have known Mangold Wurtzel seed in some seasons to be of such quality as to be scarcely saleable by a merchant, and then one or two-year-old seed would be preferable.

An honourable member spoke the other day about Onion seed being killed occasionally; can you tell me whether that can be discovered?—It can.

By the same test?—No; the only means I think that we should have would be by tasting the flavour of the seed, besides of course testing it in soil; the flavour of new Onion seed is very strong indeed. The killed Onion seed has not the Onion seed flavour at all, but a burnt flavour.

As to the flower seeds, seeds used in flower gardens, is there much killing in regard to them?—Not much.

And you would not consider it of the same importance to include them in the bill?—I should not; I should consider them of very little importance.

And perhaps the practice will be not so easily detected, even where it is carried on?—Well, I should say it would scarcely be detected; it is of such little moment that I do not think much attention has been paid to the adulteration of flower seeds.

Can you recall any other sorts of seeds besides those which you have mentioned, in which adulteration is carried on to any extent?—To a limited extent Radish may be adulterated; but it is easily detected, even though it is adulterated to a very small extent.

The list you have given me comprises, virtually, all the seeds in which adulteration is carried on extensively?—Yes.

Mr. Shaw-Lefevre.—You come here, principally, with the purpose of withdrawing your name from this memorial, which has been presented to the Board of Trade, against certain portions of the bill?—I am not aware of that.

I understood you to say that you no longer agree with that memorial?—Decidedly so.

You signed your name to it on the 22nd of June, not agreeing with the terms of it?—Yes. Allow me to say that there were two other firms who likewise signed that memorial, but who protested against it as being weak and ineffectual; those firms are Hurst & Son, and Carter and Company.

At all events you yourself signed it without agreeing with its terms?—Yes.

And you now come for the purpose of saying that you do not agree with its terms, and that you are in favour of the bill as it stands?—I am in favour of the bill as it stands.

You stated that your reason for signing the memorial was that there might be a unanimity in the trade?—Yes.

You signed one of the last with that view?—Yes.

Then you had found that at that time there was something like

unanimity in the trade?—I was pleased to find there was, and I did not wish to stand alone.

At that time there was something like a unanimous feeling on the part of the trade against certain clauses of the bill, is that so?—No, I do not know that there was.

What I understood you to say was this; that you signed the memorial because you wished there to be unanimity on the part of the trade?—Yes.

But you did not agree with it?—I did not.

I ask you whether at that time you had found that there was something like unanimity?—There was not a very strong unanimity, because, as I have already told you, there were two firms who protested against it, although they did sign it, and the majority of the trade wanted a bill of some kind, and wanted it to be as effectual as possible.

But they did not wish those clauses which imposed penalties very specially in the event of their having killed seed in their possession?—Just so.

They thought that would be an interference with their trade?—Yes.

That it might render them liable to prosecution from farmers, who thought that the seeds had been improperly doctored, when they had not?—Yes; I presume that was the feeling.

You said that you had done your best to set your face against adulteration?—Yes.

Have you sold any samples of adulterated seed?—Oh, yes.

Then you have not gone against it to the extent of abstaining yourself altogether?—Certainly not; I could not afford to do it.

What measures did you take?—I have instructed my travellers, where practicable to sell net genuine seeds to do so; and I have taken the earliest opportunity that presented itself since I have been master of my own actions to combine to put it down if possible.

But for many years you continued to sell these adulterated samples? For five years. I have been master of my own actions, and for fifteen years I was with my step father, Mr. Waite.

Since you have been master of your own actions, have you sold any adulterated seeds of this kind?—I have.

Mr. Cross.—You say you have instructed your travellers to sell net seeds, if possible?—Yes.

Were they to tell the customers that you have two kinds of seeds, one adulterated and one not?—Where the question of net seed was named, then it would be understood that if they bought net seed they would have net seed, but that if they did not buy net seed they would have seed used according to the custom of the trade.

Are the customers that you are speaking of those retail shopkeepers? Some of them.

Any farmers?—No.

No actual consumers of the seeds?—No; what trade we do direct with the consumer is all done with net genuine seed.

You never have ventured to sell adulterated seed direct to the consumer?—Well, I should not do that, because competition does not demand it.

I say have you ever ventured to sell adulterated seed to the consumer?—I should say not.

Do all the country dealers know perfectly well that the seeds they buy of you are adulterated?—A great many of them would; I had one case only last season: my traveller had booked a very large order, amounting probably to £1200 or £1300, and the order was submitted to me by my traveller to decline or accept at the prices. There were some items of Turnip seed, at very low prices indeed, so low, in fact, that there was no profit attached to them; but the order, taken as a whole, I could execute at the prices. On these Turnip seeds I wished to get an advance in the price of 1s. a-bushel, merely to pay common interest of money; to my surprise, I heard from the people that as I had not accepted the order as it stood, they were very sorry, but they had given it to somebody else. I have subsequently heard that that order was given to another firm, because that firm agreed to reduce the seed to a growth of something about 60 per cent. So that it was a question of growth that lost me the order.

It was not that you stuck up for selling net seed that lost you the order?—I did not offer net seed; the seed offered by my traveller was seed understood to grow about 70 to 75 per cent.

How much of the profit of the adulteration goes into the seed merchant's pocket?—Very little; I should say nothing.

Do you mean that all the profit of the adulteration goes into the consumer's pocket?—I should say that there is no profit attached to it, either to the merchant or the retailer, or the consumer. The reduction in the quality has brought about such an amount of competition that the consumer must suffer; he must be the only person, I should say, who would suffer.

Dr. Playfair.—You spoke of the test of a certain per-centage growing not being a good one for seed; how old was the seed you spoke of when you said that a test made in the autumn might be a very different test if tried in the spring?—I only gave that as an instance; I did not apply it to any special kind of seed.

Take the case of a seed a year old, would there be any great difference between a young seed in the autumn and that same seed in the spring?—We will take the case of a wet autumn. The seed would not be in so good a condition as in a fine autumn. That seed would be longer about in the harvest and maturing, and probably would be of a weak growth when it came in. The chances are that that seed would fall off in its vitality in the spring of the year.

Considerably?—Sometimes considerably.

Even the seed of the last autumn?—Yes, even the seed of the last autumn; that applies, of course, to a bad harvest.

And the more rapidly, I suppose, the older the seed was, if you had a three-years-old seed for instance?—I have known a three-years-old seed to grow as well almost the third year as when harvested, if it is good seed.

You are not afraid, then, of the three-years-old seed falling off much more rapidly in the test between the autumn and the spring?—In some cases it might, but thoroughly good harvest seeds of some kinds would do well for two or three years and even longer sometimes.

Then it would be the exceptional cases where there was such a speedy falling off as you spoke of?—It would be the effect of a bad harvest, or of a bad harvesting.

Mr. M'Lagan.—You said it might arise from bad harvesting or bad crops, but might it not arise more from bad keeping than anything else?—It might arise from bad keeping.

In many cases it does arise from bad keeping, does it not?—Well not in the hands of a merchant who has the facilities for keeping seeds, who has good stores.

Have you been present during the few days we have been taking evidence?—I have, every day.

The question has been frequently put as to what time should be allowed for information to be brought against the merchant for selling adulterated seed, now what time would you allow?—That is a very important question, but so far as it is one affecting myself as a merchant it is not so important as it is considered as affecting the commission agents, the factors, where short credit is taken; and I think that more important evidence might be given on that point than I should be able to give. So far as I am concerned, I should say that my customers would be able to test their seeds and should make complaints, if they have any cause to make any complaints, within twenty-one days. I should consider that that would be allowing them ample time.

The time that has been said, generally, is thirty days or a month?—I think you will find that that would be a serious matter as regards the factors.

Even a month?—Yes.

Take twenty-one days; does it matter at all to the factor, or the wholesale merchant, if the time is to be twenty-one days, whether there is any deterioration in the growing quality of the seed from autumn till spring; there surely will be no great difference, at all events, in the germinating power of the seed in twenty-one days?—I should say none.

Therefore it is of little consequence whether the seed does become deteriorated in its germinating power from autumn to spring? So far as adulteration is concerned, I should say that it is of very little importance.

But so far as mixing with old seed is concerned?—I do not exactly understand the question in that form.

I understood you to say to the honourable Member for the University of Edinburgh that seeds often lose in their germinating power from autumn to spring?—Yes.

Unmixed seed I understood you to mean?—Yes, unmixed seed; we will take an instance of that kind. If we had seed of a weak growth in the autumn we should make allowances for its going off in the spring; at least I should.

I want to know will it make any difference if you limit the time for laying an information to three weeks, whether the seed has deteriorated in its growing quality from autumn to spring?—I should say not.

And therefore do you think that there would be any difficulty in you guaranteeing to the purchaser a proportion of germinating power in the seed which you may sell?—What proportion would you wish guaranteed?

I merely ask a general question. You said it would be impossible to do it, I think, in the answer you gave just now?—Yes; that is, taking the extreme growth, which probably might be demanded of us. I would guarantee seed with safety to grow 50 per cent., but if a seedsman demanded of me whether that seed should grow 90 or 95 per cent., I should not venture to give a guarantee as to growth.

You are quite prepared, however, to guarantee a certain proportion of germinating power in the seed?—If guarantees were introduced in that way into the seed trade, I have no hesitation in saying that there would be very few seedsmen.

But I understood you to say that you lost a particular transaction from another merchant coming in and selling seed which he guaranteed?—I do not know that he guaranteed it. It would be merely a representation; there would be an understanding.

But I understand that you gentlemen are all men of honour, and an understanding is quite equal to a guarantee?—Decidedly.

He guaranteed it in that case to have a germinating power of 60 per cent.?—He so represented.

Therefore there is, at the present time, an understanding that the seed you sell has a certain germinating power?—Yes, it is tacitly understood in the trade.

And that is quite equivalent to a guarantee amongst the merchants themselves?—I do not know that it is equivalent to a guarantee.

You could not sue upon it, but as an honourable transaction it would be?—As an honourable transaction it would be.

If it is a point of honour, why not make it a point of law?—I am not competent to answer that question.

You deal extensively in Mangold Wurtzel, do not you?—Yes.

And I think you stated that it is considerably adulterated also?—It

is not adulterated, so far as my own experience is concerned, to the extent that other seeds are.

It is, however, mixed sometimes with the seed of the Sugar Beet?—Yes, sometimes.

And is that seed killed?—Yes.

Can you easily distinguish Mangold Wurtzel adulterated with Beetroot?—You cannot.

Not even an expert?—No, I would not profess to judge Mangold Wurtzel.

I have a sample here, and I was going to ask if you could tell the difference?—No.

What is the difference in the price of Beet seed and Mangold Wurtzel seed?—It all depends upon the season; sometimes we have Mangold Wurtzel seed as cheap as Beet seed.

Take the average?—Well, I suppose £20 a-ton for Sugar Beet, and for Mangold Wurtzel £30 to £33.

Therefore there is a difference of about 50 per cent. in the price?—About that.

And you say that the seed merchant who mixes these two kinds of seeds derives no profit from that mixture?—Well, the profit I should say is very little on account of competition: there is as much profit out of genuine seed as there is out of adulterated seed, generally speaking.

That is to say if all the merchants sold genuine seed there would be as much profit as if they all sold adulterated seed?—Yes.

Therefore the only loser in this trade of mixing is the poor farmer? I should say he is the loser, from my own observation in the matter.

But he is a loser?—I should say so.

It has been given in evidence that he is not, in as far as he gets his seeds cheaper; what have you to say to that?—That is another matter altogether; so far as he gets his seed cheaper he may not be a loser; but the question is whether adulterated seeds are as cheap as good seeds.

If you look to the ultimate produce of the crops there is no doubt that he is a very great loser by buying adulterated instead of unadulterated seed?—Yes, in that light he is.

Mr. Brand.—I understand you to say that you have been about twenty years in the seed trade?—Yes.

Has that practice of adulteration increased within your experience?—I should say it has.

Has it extended to different classes of seeds?—Yes, all classes.

That is to say, that seed which, when you began business, were not adulterated, are adulterated now?—No, I should say that all kinds of seeds that were adulterated when I first had a knowledge of the trade are still adulterated, and I do not know that they have increased in sorts, though they may have done so; but I should say that in general the practice has increased.

And the demand for these seeds, especially Turnip and Mangold, and Clover, has increased very largely in your recollection?—Yes, very largely; more particularly in Ireland.

Chairman.—I think you said that you considered that the Bill would be operative in the form, or nearly in the form, in which it now stands?—I think so; at least, I have very little doubt about it.

Do you think that the seedsmen themselves would take any steps to assist its operation by forming themselves into an association?—There is no doubt that there will be an association of some kind formed.

With the object of assisting the operation of the Bill?—Yes.

Under which the seedsmen would constitute themselves, as members of their own bodies, inspectors to report cases to the trade, and lay information where they discovered practices of adulteration to be carried on?—Yes.

Now I should just like to ask you what you think would be the effect of all this inquiry, supposing that this Bill was not passed into law; do you think the publicity given to the matter will have the effect of discouraging the practice, or, on the contrary, do you think that the adulteration would increase from the greater knowledge of the practice that would be obtained?—While it is fresh in the mind of the public it may probably deter the practice to a limited extent; but we shall soon forget it again, and more particularly when we have a scarcity of seeds. If Parliament does not interfere with it, I believe that in a very short time it will be even more on the increase; I believe that it will be carried on by inexperienced persons, and consequently a great deal more injury will be done in the use of the killed seeds than under the present system, as it is now carried on by experienced persons.

You have said that you think the number of sorts of seeds to which the practice of adulteration is applied has not increased, do you think that the number of districts in which it prevails has increased?—Well, I cannot exactly answer that question. I think that the head-quarters for colouring and for killing seeds would be in London. There may be other places which have not come to my knowledge; in fact, I have no doubt that there are other places.

But, speaking generally, you think that the practice is rather on the increase than on the decrease?—I should say so.

Mr. Shaw-Lefevre.—Do you test your seeds before sending them out?—As soon as we receive them from our growers we test them.

So that you know their germinating power before you send them out?—Yes, that is, we test them when they come in in the autumn, and if there is a weakness of growth, we note it. In fact, we note all the growths, but we take special notice of a weak growth.

You agree, then, with Mr. Sharpe and other witnesses, that in adulterating samples with killed seeds, the practice has been to adulterate them down to a certain per-centage of germinating power?—I do not quite agree with what has been said about that, because I believe that generally the seeds are made up on an average; that is, in Turnip seed, three of the genuine seeds to one killed seed.

But what has been your own practice in mixing killed seeds with genuine seeds?—Upon that rule.

Then your endeavour has been to reduce the germinating power of the sample to 75 per cent., or about that?—Well, it comes below that; about 70 per cent., I should say.

But supposing that in testing your seed you have found it to be not up to the average, you have mixed somewhat less of killed seed?—When it is a bad growth, much below an average, then of course we should not reduce it to such an extent.

Your endeavour has been to keep the standard at the same level year by year?—Sometimes we deviate from the rule.

As a general rule, that has been your endeavour?—As a general rule it has.

What do you consider that standard to be; between 70 and 75 per cent.?—About 70 per cent.; to get 75 per cent. when the proportion is three and one, every genuine seed must grow.

Dr. Playfair.—Do you agree with Mr. Sharpe in desiring that there shall not be included in clause 3 any prohibition against oiling seeds to improve their appearance?—I think that oiling seeds being part of the preparation for cleaning seeds, would be beneficial to the seeds.

What makes you think so?—From my own experience; for instance, it cleans them from dust and mites (a very small insect). It would congeal the seed sometimes, unless we had a process of cleaning the seed from those little insects, to say nothing of dust; I think it would be wrong, therefore, to prohibit oiling the seeds.

Did you ever try any experiment as to the germinating power of oiled seeds and seeds not so treated?—Oiling seeds would not affect the growth of them.

Have you tried any positive experiments on them?—I have general experience; but I have not tried positive experiments.

You do not know whether it affects their germinating power?—I do not hesitate to say that it does not affect the growth or the germinating power.

And therefore you would not wish it included in this clause?—No; I think it would be wrong to include it, and to consider it as an adulteration.

Mr. M'Lagan.—Though it may not destroy the germinating power of the seed, would it not retard the germinating power?—No, not at all.

Will the oil on the outside of the husk of the seed not prevent that seed being properly moistened with water before it can germinate?—I should say not at all.

We had in evidence that the seeds with which Turnip seed is adulterated are sold as warranted not to grow; are you aware whether that killed Beetroot seed, which you have alluded to as used to adulterate Mangold Wurtzel, is sometimes sold, too, as warranted not to grow?—I should say that it is sold with the understanding that it will not grow.

But not with a warrant not to grow?—No; but it is generally understood it will not.

Are you aware of the lowest price at which that Beetroot is sometimes sold?—I do not know; I have had so very little to do with that.

I thought you dealt extensively in Mangold Wurtzel?—Yes; but I have not had much to do with Beetroot; Mangold Wurtzel is not adulterated to the extent that other seeds are.

Have you known Mangold Wurtzel seed to sell for £120 a-ton?—Yes.

Of course, in that year there would be extensive mixing with Beetroot at £10 a-ton?—Yes.

Would there not be a great profit in that case to the salesman?—I daresay there would be in many transactions.

And a great loss to the farmer?—Yes.

Are there any other seeds with which Turnip seeds are adulterated, excepting Rubsen seed?—None except Rubsen seed, and the seed sometimes called Indian Rape; it is very much like Rubsen seed. And then there is the black Rape for Swede Turnip.

There is a small seed very often found as a weed amongst our crops, in Scotland and Ireland, is that ever riddled out?—I presume you are alluding to Charlock seed. Any merchant knowing his business would not use that, because it is so utterly distinct from anything else.

Though an expert might distinguish it, do you think a farmer could distinguish it?—Probably he might not; he would if he had once given himself the trouble to think about it.

PREVENTING AND DESTROYING MILDEW.

Feeling myself to be largely indebted to "the Journal," for the varied information which I have from time to time gathered from its most instructive columns, and regarding it, as I do, in the light of the most efficient aid accessible to amateurs like myself, who in all their numerous difficulties turn to it for counsel and assistance, I venture to offer a few observations for the consideration of such of your readers as have suffered from this most insidious enemy, and unfortunately their name is legion.

I have been in the habit of keeping pot Roses in an orchard house, and somehow, notwithstanding plenty of air being regularly admitted, my Roses were frequently and periodically

attacked by mildew in a most aggravated form. I tried Mr. Radclyffe's remedy of blue vitriol and water, but with very little effect. I afterwards used regularly a dredging of flowers of sulphur, and by this means I could cure it; but the cure was slow, and therefore unsatisfactory. I was one day in the orchard house with my medical man, and he, noticing the Roses covered with their yellow sprinkling, inquired the cause. Upon being informed, he proceeded to enlarge upon the particular effect produced upon vegetation by flowers of sulphur, and in checking the mildew, and at the same time went on to observe, that if the heated fumes of the flowers of sulphur, accompanied with considerable moisture, could be brought directly to bear upon the plants, the effect would be much more speedy and complete than that produced by the mere contact of the sulphur when sprinkled over the foliage.

I took the hint, and proceeded to endeavour to improve upon it, and the result has been most satisfactory. I can now cure the very worst cases of mildew, or, at all events, effectually check them in about two days.

The *modus operandi* is as follows:—Place the plants on a common greenhouse stage in a small greenhouse or summer house, or any other place where the fumes of the sulphur will be well confined. Under the stage place a large flat milk dish or other vessel, and having heated three or four common bricks nearly red hot (firebricks would be better, as the common ones are rather apt to fly with the heat), place them in the bottom of the vessel; then fill it up nearly even with the upper surface of the bricks with boiling water, and on the bricks lay flowers of sulphur; scatter some over the surface of the hot water, and renew the sprinkling from time to time, as long as the bricks and water keep sufficiently hot. The fumes pass among the foliage of the plants ranged in tiers on the stage above. The following day syringe the plants well with cold water, and you will have no more trouble with them for some time.—A. Dumbell, *Ramsey, Isle of Man.*

[We have seen this season the mildew on Roses effectually cured at Sawbridgeworth, by the application of soot dusted over the plants in pots. This not only destroys the mildew, but improves the colour of the Roses.—Eds.]

HARDY CLIMBERS AND OTHER PLANTS FOR WALLS.—No. 2.

It may be well to distinguish between the climbing and other plants suitable for covering walls. "Climbers," states the "Cottage Gardeners' Dictionary," "are plants which attach themselves to supporters by their natural appendages, as by their tendrils, by their hooks, or by other modes of attachment." This will be sufficient to distinguish them from other plants.

CLIMBERS.

Akebia quinata.—Evergreen twiner. Flowers lilac pink, in spring and early in summer. Propagated by division of the root, and cuttings of the half-ripened shoots in sand on a gentle hotbed. It requires a south wall, and peat and sandy loam.

Ampelopsis hederacea (Virginian Creeper).—The most vigorous of all climbers, succeeding on any aspect, and excellent for covering trellises and rustic work, thriving where many other climbers will not do so, especially on a north aspect. The flowers are inconspicuous, but the foliage is a full compensation for any deficiency of flowering. It gives a close mantling to any building or object, the leaves dying-off a bright purplish red. It will grow in any kind of soil, but succeeds best when encouraged with good, rich, well-stirred loam. It is deciduous, and increased by layers and cuttings of the ripened shoots. Being of vigorous growth it is very suitable for covering high walls and buildings with unfavourable aspects. *A. quinquefolia* does not differ from A. hederacea.

A. japonica.—A new Virginian Creeper, of a compact shrubby habit, the leaves being broad, ovate-oblong, and in autumn assuming a bright red tint, in this respect surpassing A. hederacea. It will doubtless prove as hardy as the preceding.

A. Veitchii.—Foliage smaller than that of A. hederacea; the leaves are sometimes entire and occasionally thrice-divided, and are very close and dense; colour green, shaded with purple. Very fine for walls with north aspects, and rustic work of all kinds, being very hardy; and on account of its peculiar-coloured foliage and young shoots, which are quite purple, it is worthy of greater attention than it has yet received. It is the best climber for planting against walls where nailing cannot be practised, as it needs no training, but clings to any building with the greatest tenacity. The leaves turn red in autumn before falling.

Aristolochia Sipho.—Foliage bold, not unlike Rægner's Ivy; flowers yellow and brown, produced in July. It is suitable for walls with east or west aspects, and for verandahs and summer-houses, but in warm situations only. Sandy loam is the most suitable soil. Deciduous. Propagated by division of the roots or layers, either in spring or autumn. 30 feet.

Atragene americana.—Deciduous, succeeding in any common soil. Fine for rustic work. Flowers purple, in July. 15 feet. A. austriaca.—Flowers brown and yellow. July. 8 to 10 feet. A. sibirica.—Whitish-yellow flowers. July. 12 feet. Increased by seeds sown in sandy soil in a frame, the seedlings being pricked off when large enough, and gradually hardened off; also by layers in autumn, or by cuttings under a hand-glass or in gentle heat, either in spring or summer.

Berberidopsis corallina.—Evergreen, not exactly a climber, being only sub-scandent. Flowers fine deep red, in clusters of two or three, on long pedicels. It is but little known, and appears very hardy.

Bignonia grandiflora.—Free-growing climber with orange-red flowers produced in summer, but it requires a south wall. The foliage is bold and handsome. As the flowers are produced on the short shoots which proceed from the wood of the previous year, care must be taken to have the latter well ripened by thorough exposure, keeping the shoots moderately thin and rather closely nailed or tied-up.

Bignonia radicans.—Flowers orange, in July. Vigorous, and similar to the preceding, but not so good, though it is hardier. There is a better-coloured variety called superba. This and the preceding are deciduous, and only suitable for trellises against walls, verandahs, and other warm situations. They are increased by cuttings of the shoots, and by pieces of the roots in gentle heat.

Bignonia capreolata.—Flowers red. In warm situations, against a south or west wall, it is very ornamental.

The Bignonias succeed best in a compost of equal parts of peat and loam. Protection should be given this in severe weather.

Billardiera longiflora.—Red flowers in July. B. mutabilis.—Red, August. B. scandens.—Purple, August. All evergreens requiring a south aspect, and peat and loam compost. Propagation by seeds sown in a hotbed in spring, and from cuttings in June in a hotbed, covering them with a bell-glass.

Caprifolium flavum.—Yellow. 10 feet. Deciduous. Trellises in warm situations. C. Douglasii.—Orange. 20 feet. Deciduous. Pillars, arbours, and rustic work. C. Periclymenum.—Yellow; 20 feet; the Woodbine so fine for covering rustic trellises, arbours, or trunks of trees. June. It and the varieties are deciduous. Periclymenum belgicum, or Dutch, larger and earlier-flowering, June, 20 feet; Periclymenum serotinum (late Dutch), yellow and red, 20 feet, June; Periclymenum quercifolium, yellow and red flowers, June. There is a variegated variety of this. Except the first all are fine for pillars, arches, and covering all kinds of rustic work, but they should have open situations, for though they may grow, they do not flower freely on north aspects or in the shade. Against walls they are smothered with aphis.

C. sempervirens.—Evergreen, also its varieties Brownii, floribunda, and Youngii, all with scarlet flowers. Fine for trellises, verandahs, and poles, the flowers being long and trumpet-shaped. Rather light soil is most suitable.

The Caprifoliums are increased by cuttings of the ripened shoots in autumn, in a shady border, covering them with a hand-glass or inserting them under a frame. Layering in autumn when the leaves are falling is the most certain method of propagation.

Celastrus scandens.—Deciduous. Flowers yellow, in May or June. 15 feet. Seeds in a hotbed in spring.

Clematises.—Cærulea grandiflora, pale azure blue, 10 feet; flamula, white, 20 feet, sweet-scented; florida, white, 10 feet; and its double variety, white, tinged with green; bicolor (Sieboldi), straw, puce and green centre; Fortunei, large, double, white; hybrida splendida, deep violet, stamens green; Jackmanni, violet purple, centre veined, stamens light green; lanuginosa, lavender, large; lanuginosa candida, large, white; lanuginosa pallida, pale lavender; montana, white, stamens green; montana grandiflora, larger than the species, flowers white; Helena, large, semi-double, white; Louisa, white, with purple-tipped stamens; Sophia, mauve, centre of petals straw-coloured, stamens tipped with chocolate; there is a double variety of this similar in colour; rubro-violacea, maroon, shaded reddish violet, stamens pale green; Standishii, deep bluish violet; Viticella, purplish violet; and its variety multiplex with double flowers of the same colour; Viticella atrorubens, deep purplish red; venosa, reddish purple, veined crimson, light centre, stamens chocolate; Vitalba, or Traveller's Joy, white. This is the most hardy, and quickly covers any surface.

All the Clematises are fast-growing and free-blooming, indispensable for covering trellises, walls, rustic, and all kinds of ornamental wirework. Their rich and varied-coloured flowers, many of them large and sweet-scented, render them particularly desirable. All are deciduous. Propagation is effected by cuttings of the firm side shoots in summer, inserted in sand under a hand-glass or frame, keeping them shaded and close; or by layers in September. A light, rich, well-drained soil is most suitable.

Hedera algeriensis, fine large leaves, requires a warm situation; algeriensis variegata, a fine silver-variegated Ivy; canariensis (Irish

Ivy), free, close-growing, large handsome foliage; canariensis variegata, slightly variegated, free growth, close habit; canariensis aureomaculata, golden variegation in blotches, not very constant; canariensis latifolia maculata (marmorata), gold-clouded, but often green; Helix (English Ivy), fine, large, green leaves; Helix aureo-maculata, golden variegation, but not constant; Helix chrysocarpa, yellow-berried; Helix variegata (foliis argenteis), silver variegation, and very fine for buildings required to appear antique; digitata, fine for rustic work of all kinds; taurica, small, much-divided leaves, neat and distinct; Rægneriana, large, deep-green, heart-shaped leaves, forming a beautiful covering for a wall.

All the Ivies are evergreen, and invaluable for covering walls with north or east aspects, old and dead trees, &c., and to form a green carpet beneath trees, and in shady places where nothing else will grow. Ivy may also be employed to give architectural effect. Light, well-drained soil is the most suitable, but it will succeed almost in any soil and situation. Propagation is best effected by cuttings or slips put in at the end of summer in a north border, and kept moist. When quick growth is wanted, rich light soil and liberal waterings in dry weather should be afforded. To have Ivies in their greatest perfection, they require east or north aspects.

Holbollia (Stauntonia) latifolia.—Evergreen, having fragrant green flowers in spring. It requires a south wall, with protection in severe weather, and peat and sandy loam. Increased by cuttings of the half-ripened young shoots in sand under a bell-glass, in a gentle heat.

Jasminum officinale (White Sweet Jasmine).—Deciduous; valued on account of its white sweet-scented flowers. The variety grandiflorum only differs from it in having larger flowers. Jasminum officinale foliis aureis has golden-variegated leaves. There is a kind with white variation, but very scarce, and a double variety, which I believe is not in cultivation. It is remarkable that a bud of the variegated Jasmine taking on the common or green, will frequently cause the whole of the plant to become variegated. To thrive well, these varieties require south-east, south, or south-west aspects, not succeeding on trellises in the open ground. The flowers are produced in July.

J. fruticans.—Deciduous. Flowers yellow; only suitable for low walls. July.

J. nudiflorum.—Deciduous. Yellow flowers, produced in mid-winter. It is so hardy, that in Yorkshire, 500 feet above the sea level, it grows vigorously, and blooms most profusely on a north wall in January. It attains a height of 15 feet, perhaps more, and is a rapid grower. It is very well adapted for forcing or the greenhouse, and succeeds on any aspect out of doors. The flowers are produced before the leaves. It ought to have a place in every garden.

J. revolutum.—Evergreen. Flowers yellow, in June. It is only suitable for south aspects and warm situations, and should have protection in severe weather.

The Jasmines are propagated by cuttings of the shoots after these become firm, inserted under a hand-glass in sandy soil; also by suckers and layers in autumn. Good, rich, light soil, with a little leaf mould or peat, is the most suitable.

Lardizabala biternata.—Evergreen, of rapid growth, and having purple flowers. It requires a south wall, or warm situation. It flowers in winter, and in severe weather needs protection. Soil, sandy loam and peat. Propagated by cuttings of the half-ripened young shoots under a bell-glass in gentle heat.

Lycium barbarum.—Deciduous. Flowers violet, in June. 12 feet.
L. europæum.—Deciduous. Flowers lilac, in June, followed by yellow fruit.
L. afrum.—Deciduous. Violet flowers, in June, succeeded by pretty fruit, of which birds are very fond.

The Lyciums are suitable for walls, trellises, or arbours, being of a free, rambling, half-shrubby nature. They are propagated by cuttings of the ripened shoots in autumn or spring, in a frame or under a hand-glass.

Menispermum canadense.—Deciduous twiner. Flowers green and yellow. June. Suitable for trellises. Cuttings in spring under a hand-glass, division of the roots, and seeds sown in spring. Sandy rich loam.

Mutisia decurrens.—Deep orange-coloured flowers, in autumn. Hardy, but of its other qualities I have no experience, though I think it will prove one of the finest hardy climbers, and an evergreen, being so in a young state.

Passiflora cærulea.—The only hardy Passion-flower, and it requires a south wall, and in cold localities protection in severe weather. Flowers blue and white. Cuttings of the young wood a little ripened, inserted in sand under a bell-glass in gentle heat. Peat and loam form the most suitable soil.

Periploca græca.—A deciduous twiner of rapid growth, and quickly covering an arbour or wall. The flowers are brown, and appear in July. Cuttings in summer under a hand-glass, or layers in autumn.

Vitis vinifera aphylla.—Leaves crumpled or Parsley-like; its only merit.

Vitis heterophylla variegata.—White and red variegation on a green ground, pretty. The Vitises are suitable for south walls or trellises in warm situations. Light rich soil. Cuttings of the ripe wood, or eyes, in a mild hotbed early in spring.

Wistaria (Glycine) sinensis.—Deciduous, and of free growth; foliage light brownish green; flowers light purplish blue, in clusters not unlike bunches of Grapes. A south aspect is most suitable, though it will succeed on east and west walls and other warm situations. It is increased by cuttings of the young shoots when their wood is becoming firm, inserted in sand under a hand-glass or in a frame. Layers, however, form the best mode of propagation. If a young well-ripened shoot, the longer the better, layered its full length in autumn, almost every eye will form a plant or shoot, which will be well ripened and rooted by the following autumn. The variety alba has white flowers.

All climbers should be so trained whilst young that the lower part of the wall or trellis will first be covered, training the shoots out straight and with regularity, and stopping or cutting back, so as to furnish shoots to cover the wall regularly and closely. The shoots, as they advance, must be tied or nailed-up, not so thickly as to crowd and cross each other, but so that each may have a proper share of light, air, and room to grow in. They must, therefore, be thinned-out where too close together, and in tying or nailing allow space for the further thickening of the shoot.

Pruning should be performed at two seasons—namely, in summer and in winter. The summer pruning will in most cases be confined to the regulation of the shoots, thinning them out where too close together, and shortening them where too long. While shoots of some length should be laid-in, there will be far too many for such a purpose, and if they are cut off, the main shoots or branches will be rendered bare; if not required for extension, all but the flowering shoots may be shortened to within a few leaves of their base. The flowering shoots, of course, should be preserved. Wistarias and the like may be closely spurred-in; but the Bignonias, as they produce their flowers on the long shoots, should not be pinched back at the summer pruning, though they may be closely pruned before growth commences in spring. The best method is to secure the covering of the wall, then train-in the shoots where practicable, and if not, to shorten them so as to form an even surface. The winter pruning may be performed early in autumn in the case of the deciduous and hardier kinds, when the leaves have fallen; or, if the climbers are tender, defer pruning until spring. It must be limited to cutting out the old wood, training young in its place, and cutting back the other shoots to within an inch of their base—that is, those not required for extension or covering the wall.

Evergreens will be best pruned in spring before they begin to grow, if much pruning be needed, so that fresh shoots may be produced early, and become well ripened before autumn, or pruning may be performed after flowering. Ivy is, perhaps, the only climber that can be pruned with the shears. The best time to clip it is April; the surface will then be quite green again in a few weeks, and any irregular growths may be trimmed off in August with a knife.—G. Abney.

SUDDEN CHANGE OF TEMPERATURE.

There has been a change of temperature at Blantyre, N.B., from 83° on Saturday, August 28th, at midday in the shade, to 23° on the morning of Monday, August 30th, turning Potatoes black, and giving the gardens an appearance of approaching winter. "Wiltshire Rector," writing from near Chippenham, quotes the temperatures on the same days as 85° and 55°.

Mr. Quintin Read, Pleasley Vale, Mansfield, states that on the morning of August 31st the temperature "was 4° below freezing. In the kitchen garden Vegetable Marrows, Gourds, Kidney Beans, and Potatoes have been destroyed, and in the flower garden Perilla nankinensis, Coleus Verschaffelti, Heliotropes, Dahlias, and Salvias. The Cloth of Gold Pelargonium and Golden Feather Pyrethrum have been much disfigured. Zonal Pelargoniums (except Maid of Kent and Excellent), and other bedding plants, appear to have withstood the frost without being much injured."

Mr. Kerr, writing from Netherby, Cumberland, says, "After a week of very warm weather, the thermometer standing at 80° in the shade on Friday and Saturday, the wind veered to north by east, and on the morning of August 30th the thermometer registered 3° of frost. Dahlias, Perilla, Dwarf Kidney Beans, Vegetable Marrows, &c., have suffered considerably. On the

morning of August 31st the thermometer registered the same temperature—viz., 3° below freezing."

NOTES AND GLEANINGS.

The total number of visitors to the Royal Horticultural Society's Gardens on August 26th, the anniversary of the late Prince Consort's birthday, was 60,870. This year, had it not been for the efficient services of the metropolitan police, the gardens would have become the rendezvous of the costermonger and cheap jack. The "dodges" tried on by these at the gates were surprising, and a great many passed through, but were soon turned out by the police. It is the mischievous boys that the Royal Horticultural Society want to keep out. We regret to say that another of those beautiful vases on the majolica fountain came to grief by these urchins. The class of people for whom the day was intended keep away, although a few respectable people are to be seen, and the gardens become for the time the property of the roughs. If it were not for the services of the police, who deserve all credit, considerable injury would be done to the Society's property.

—— We received last autumn from America a small parcel of Early Rose Potato which we planted the same day with Ashleaved Kidney, Ten-weeks, Gloucestershire Kidney, and Coldstream Early. As regards earliness, it is not to be compared with either of these, being hardly even a second early. The produce was on an average six good-sized and eight small tubers to a stock. When cooked they boiled beautifully white, and were mealy outside; but inside they were close and watery (not even waxy), and the flavour rather disagreeable than otherwise.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The advancing crops of winter *Broccoli* and *Borecole* should be kept frequently hoed, and vacant ground may yet be filled up with the later kinds. The autumn *Cauliflowers* and *Broccoli* planted in shallow trenches should have these filled up, for except in very dry situations the natural rains will afford sufficient moisture. In earthing-up *Celery*, the greatest care is necessary to prevent any portion of the earth from falling into the heart of the plant, which would prevent the upright growth of the inside leaves, and spoil its appearance for the table; nor should the earth be pressed too closely round the upper part of the plant, as frequently, when this is done, it bulges out below. The best practice is to tie each plant loosely with matting, after removing the suckers and small leaves, and then a little earth can be added every week as the plant grows taller. Another common error, is earthing-up Celery too soon. It should be allowed to grow to a considerable size before earthing-up is attempted, and the ground should be frequently soaked with water, as but little rain will reach the roots after earthing-up. The plants should never be touched when at all damp. *Cardoons* will require similar treatment. *Leeks* in drills may have earth drawn to them with the hoe. *Onions* must be stored in a dry state, or they will not keep. As time permits, the *Potato* crops may be taken up, beginning with the earliest kinds first. Late *Peas* and *Beans* will require close attention to prevent mildew; well supply the former with liquid manure. *Tomatoes* are likely to be late, and the leaves shading the fruit should be removed; prevent the plants making any further growth, by constant stopping. On dry days, when the ground is in working order, take up and store roots, stacking them in sand in a cool place, whence they can be conveniently taken when wanted for use.

FRUIT GARDEN.

For the last time go over Peaches and Nectarines, and nail or tie-in further growths, at the same time removing any very weak or excessively strong shoots not wanted for fruiting next season. The remaining shoots, being thinner, will derive greater benefit from the sun's rays increasing the temperature of the wall. Remove leaves where they prevent the fruit from properly colouring. The best kinds of Plums and Nectarines should be protected from wasps and flies by some kind of hexagonal netting. Continue to tie-in and stop Fig trees and Vines on walls, and protect the fruit as above. Look frequently over Pears and Apples ripening, and gather those fit for storing. Where Currants are closely netted up, the trees should be uncovered occasionally on fine dry days, so as to expose the fruit thoroughly to air, in order to prevent injury from damp. Trim and dress Strawberry plantations.

FLOWER GARDEN.

Unless some precautions be taken to keep the taller plants in the beds of geometric flower gardens within proper limits, they will be likely, towards the end of the season, to become too high, and will destroy the uniform appearance essential to this style of gardening. Plants likely to exceed the standard height should, therefore, be constantly watched; and by frequently pinching back or pegging-down, endeavour to keep beds of the same pattern at the same height. At this season beds of flowering plants require frequent cutting back and trimming, to prevent a straggling habit in free-growing plants, a tendency which the late rains will also increase. Allow no dead flowers or seed-pods to remain on the plants. By careful attention to these matters, the season of blooming may be prolonged till the plants are destroyed by frost. Lawns should be well swept in dry weather to remove wormcasts, and should afterwards be well rolled. Where worms are very troublesome, water with clear lime water of full strength, this will bring them to the surface, when they may be destroyed. Cuttings of various evergreens should now be planted to keep up the stock in the reserve garden. It will soon be time to house tender plants from which cuttings are to be taken next spring, or which are to be used again next season. Variegated Pelargoniums will not bear much frost, and where plants have to be wintered in situations which are not very suitable for them, they should be taken up before they are at all injured, as they will be more liable to damp, and to die back in winter, if the wood be at all touched by frost. Except where there is a sufficient stock of the variegated sorts, they should not be cut back, as is usually done with the old scarlets, but should be kept over the winter just as they are lifted from the beds, and cut back early in spring after starting them into growth. The cuttings will then root very freely in heat, and in the case of Flower of the Day, or other free-growing varieties, will make plants of a useful size by turning-out time, and even the strongest growers of these do not cover a bed very quickly unless planted thickly. The plants should, therefore, be wintered in as large a state as the accommodation will permit. Rooted cuttings of Verbenas, and other plants, must be well attended to, keeping them perfectly clear of green fly, and exposing them freely to air on every favourable opportunity, so as to prevent growth after this season, and keep the plants hardy, in which state they will be much less liable to die off under a week or two of confinement in winter, than if they were kept in a growing soft state until overtaken by severe weather. Cuttings which are not sufficiently established must, however, be treated somewhat more tenderly, and should have a gentle bottom heat to encourage roots, but do not keep the atmosphere close or moist.

GREENHOUSE AND CONSERVATORY.

In arranging plants in their winter quarters, on no account allow them to be placed too closely together. It should be remembered that but very few plants have as yet perfectly matured their wood, and, consequently, as that process is still going on, they will require air to play freely around them. Plants, too, are expected to bear examination on all sides, and it is impossible to obtain bushy, compact plants, if they are allowed to touch each other. On flat stages a few may here and there be elevated on inverted pots, to give a little relief to the mass of green. As from placing the plants further apart, possibly room may not be found for all, the oldest and worst-formed should be set aside to make way for the more choice; and as cut flowers are always in request, the above may be found useful to keep for that purpose, and may be wintered in vineries, pits, or other houses, where they will not interfere with the arrangements. Unless the weather continue dry, Orange trees, if at all large, will soon require to be housed, as if heavy rains occur the soil in which they are growing will be saturated with wet, and the leaves will turn to a sickly yellow, which frequently remains throughout the winter. Before removing them to their winter quarters any that require additional room should have fresh pots or tubs, the present time being the most favourable for the operation. As a compost for the Citrus tribe, French gardeners use a mixture of loam, peat, and rotten dung in a state of black mould; but the whole will thrive in yellow turfy loam, and thoroughly rotten cow dung, mixing a portion of broken charcoal with the mass. Imperfect drainage will soon cause disastrous results. The plants thrive all the better if a little under rather than over-potted. Those not requiring a complete shift should have their drainage examined, and the dryness of the soil noted, in order to regulate the winter treatment accordingly. As soon as Japan Lilies, Gladioluses, and plants of similar habit have ceased

blooming, remove them to the foot of a south wall to ripen their growth, water them moderately till their tops show signs of decay, and the pots may then be laid on their sides till potting time.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Onions.—Ours are still too firm to take up, though the leaves are changing colour and drooping. As long as the foliage remains green and the roots firm, it is a pity to sacrifice size of bulb to mere quickness of pulling. Our sample will be very fair, though the Onions will not be so large as if we had had a little rain earlier. In all stiff soils, when large Onions are required, as soon as the winter-stored ones are over, it is well to sow a piece of Tripoli and White or Brown Spanish without delay. Our autumn-sown ones were very large without transplanting this season, but in general we have the best bulbs from those transplanted about March. The great secret of success in doing this well, after the ground is properly prepared, and trodden rather firmly before transplanting, is to take up the roots as carefully, and preserving them of as great a length as possible. Make the hole deep enough with the dibble to let the whole length of the roots easily in, fasten with one stroke of the dibble in the usual way, but only put the roots in the ground, leaving the base of the Onion, if covered at all, covered not more than one-eighth of an inch. Plant deeper, and you have every chance of obtaining huge thick-necks instead of fine bulbs.

In such tropical weather as we had at the end of the week, with not a single cloud to give us a little relief, we advise all who must take up their spring-sown Onions not to leave them fully exposed to the sun any longer than is sufficient to wither the roots, as these are exposed upwards. What further drying the Onions require should be given them in a comparatively shaded place. We have times out of number found fine Onions decaying in winter and spring, from the roasting they had from the sun in the open air after being taken up. Pieces of the Onion thus become blistered, and then the bulb decays, especially when kept at all warm. Many lessen the time of the Onions' keeping from being too careful of them. If the bulbs are kept dry, no frost that we have ever had will harm them. They never do better than when plaited in a string in the old-fashioned way, either plaiting them with their own tops alone, or using a few straws or a bit of string along with them to make them more secure. These strings may be of any length, but they are most useful when the Onions are all sized, and are from twenty to thirty in number. There is no better way of keeping them than suspended from nails in the wall under the projecting eaves of an old-fashioned thatched cottage, where little snow or rain can reach them. The back wall of a shed, open in front, is also a good place for keeping them long and well. Those who are short of close structures from which frost can be excluded, may thus find some rather open dry place in which to store their Onions. Provided there was dryness, we have never known the most severe frost hurt an Onion. Though a great necessary for the kitchen, there is nothing particularly savoury in it to some people; but an easy mode of keeping the Onion long sound is a matter of importance to many labourers, who could not get on as they do without their large raw Onion as a help to their dinner when too far removed from their own cottages. In many cases their carefully harvested Onions shoot prematurely in spring, from being kept too warm in winter. Bear in mind that the openest and coolest place will be the best if it be but moderately dry.

We must take up a part ere long to make room for our first Cabbages for spring. Meantime we have turned out three successions of Coleworts, the first about ready to succeed the Cabbages. Our main Cabbage plantations of last autumn, besides giving some good second-crop Cabbages, are now densely covered with fine young sprouts, and would be greatly benefited by manure-watering as soon as we can give it to them. We never found the strongest sewage do them much harm, as it requires some time to reach the roots, and is most effective when applied to the ground before a good rain or heavy shower. The decayed large leaves act very well as a mulching, if better cannot be had. We have been obliged to mulch Cauliflowers, Peas, Beans, &c., as the heat was so excessive. Watering in such weather was out of the question, unless it could be applied so effectually as to reach all the fibres of the plants.

Watering.—Several cases have been brought to our notice, in which plants have fairly succumbed in this broiling weather, owing to a mistaken kindness. "A" has only a limited allowance of water, but the leaves of his plants flag, and he runs along the rows, giving a little to-day and a little to-morrow, and the following day the plants look worse than ever, and ultimately succumb, after all the attention paid to them. "B," after pursuing a similar course, is perfectly astonished on taking up the plants to find the roots of most of them thoroughly dry. If all these waterings had been given in one soaking, and the surface stirred or mulched directly afterwards, the plants might have withstood the scorching, and never been injured. Wetting the surface merely encouraged surface-rooting, and the roots there formed were shrivelled up by the next day's sun. The bulk of the roots was never reached, and what is worse, whilst evaporation was carrying off moisture in vapour from the foliage, the roots, as a whole, were rendered powerless to absorb moisture from beneath, as the surface-watering had paralysed for a time their full action, and until the surface soil becomes dry again, the roots deep down derive no advantage, or but little, from the reservoirs of moisture stored up beneath them. Our Wheat fields always yield best after a dry summer; yet the Wheat plant cannot perfect itself in mere dry soil, but the roots go down a long way after moisture, and the free radiation of heat from the surface enables them to appropriate it as it passes the fibres. A few very slight showers, though at first seemingly refreshing, do no more real good, except from the cloudy atmosphere, than mere surface-watering. Many and many a time we have looked on quarters of Cauliflower, and fields of Turnips, withstanding a fierce sun, and the soil at the surface dry enough, and there has come a gentle refreshing shower that has cleaned the foliage, though doing little more than laying the dust; and often on the following day, when the bright sun came out, we have noticed that the leaves would flag for a time, though they stood up boldly before. The slight shower, like our mere surface-waterings, had arrested for a time the rise of vapour from beneath. In our fields and gardens, it is not always true policy to water when a plant shows a little distress. A little flagging of the foliage will often take place when there is abundance of moisture at the roots. The flagging may merely be the result of a sudden change of weather from dull to bright, in other words, from a very languid evaporation to an extremely active evaporation of moisture from the foliage. The foliage at once responds to the sunbeam, but it requires a little time before the roots, previously in a comparatively inert state, can be aroused into such activity as to absorb sufficient to meet the demands on the expanded leaves. Hence, as respects tender plants, it is often better to arrest the rapid evaporation or perspiration, instead of giving deluges of water where the roots are moist enough already. In the case of many hardy plants, say a quarter of Cauliflower, if satisfied there is moisture at the roots, the little flagging and drooping under such circumstances is of no consequence. When the sun declines in power and sets, the leaves will recover, and will resist a second and a third day's sun much better than the first. It is quite as possible to kill plants by ill-timed, injudicious, frequent watering, as by giving them no water at all. Plants when well established out of doors, would often do better afterwards if they never had any artificial watering.

Mushrooms.—As the material came in so useful for mulching and other purposes, we have been glad to clear out all our beds in the Mushroom house, with the exception of one piece which has continued in bearing, but we shall remove it shortly, as we have been gathering some time from the shallow beds in the open shed in a shady place. Our Mushroom house is a very common affair, made of wood, which often needs repairing, and harbours more enemies than slate would do. As soon as it is cleared out we shall smoke the house with sulphur and a little turpentine, and then whitewash the walls. The lean-to shed has a sloping ceiled roof of the same slope as the ontside roof, and we generally, every two or three years, paint the former thinly with boiled oil, instead of whitewashing it. Our reasons for this are chiefly two. If in making fresh beds, whilst others are bearing, there should be any moisture from the manure condensed against the roof, it trickles down to the front wall, and does not fall or drop on the beds. However well the lath and plastering of such a roof may be done, the steam and vapour from the manure will in time penetrate the best plaster, and when that is the case, the lath and woodwork will soon decay and fall down, most likely when least expected. If the roof were coated with Roman or with Portland cement, probably no moisture would penetrate; but we have found that

a mixture of the cement and mortar will not keep it out. The oil—and when heated it does not take much—has saved us from such casualties for many years. We may mention that the roof is closely boarded for the slates, and the space between the lath and boards is stuffed with clean wheaten straw, and after many years the straw seems as dry and clean as when it was put in.

So much for a very common Mushroom house. We may have a little prejudice for shelves in such a house on the Oldaker system, and there is at times an advantage in having a raised bed in a house, as being more under command than one made on the level. The chief advantage of all raised shelf beds is having so many beds in so small a space, but at a great waste of labour in carrying and lifting the material. Our correspondent, "Forward," does not like the idea of wood always rotting and going to pieces for beds, and wants to know what we should think of iron. We prefer slate or flagstone for constant wear, and permitting always of cleanliness and neatness. Iron, however treated, will be sure to rust. If we had our choice, and were making a Mushroom house, we would have a low house, such as one in which we could merely pass along to carry in the materials with a barrow, &c., without the trouble of lifting or carrying, and we would have the beds entirely on the floor, with or without a slate, stone, or brick-and-cement siding, or edging. Be the roof lean-to or span—in the latter case the pathway under the ridge could be sunk, so as to have the house low—we could have piece after piece on the ground, and have no trouble or expense with shelves, which are always costly, of whatever they are made.

We spawned our third piece in the open shed. These beds were formed chiefly of rather long litter, with 4 or 5 inches on the surface in which droppings predominated. We have a heap of rather long litter fermenting now, which when turned once or twice will form the basis of some of our beds in the Mushroom house, and then that will be covered with a layer chiefly of droppings mixed with rough fibrous soil. We should like quite as well if for shallow beds we had more droppings, but in general our gatherings are regular and abundant. One of the best beds we ever had in the open air was formed chiefly of stubble, litter, and a few tree leaves thrown together, and watered so as to ferment, but on the whole it was dryish rather than very wet. This was surfaced with 2 or 3 inches of droppings, and bore long and abundantly. The great point is to avoid too much heat for the spawn. The next is not to starve the spawn with dryness, nor destroy it with moisture. Where there is room and time, we prefer the droppings to be moderately dried without heating much before being used, but we have scarcely been able to see the difference in results when we have thrown them in a heap to dry themselves by fermentation, and even when very damp, and mixed with cut dry straw to cause them to heat and dry themselves sooner. We know we thus lost much of the most nutritive part of the manure, but so we do when we spread it out thinly to be dried by the atmosphere. In fact, we have known material for Mushroom beds turned, and dried, and turned again out of doors, until there was scarcely any nutritive matter left in it; and thus the Mushrooms, when produced, were little better than if the spawn had been inserted in the open soil, if that was at all good. Though the material should not be wet, neither should it be dust dry; many beds are starved by the dryness of the material. When fleshy Mushrooms are wanted, a slight casing before earthing-up, with sweet moist cow dung will be of great assistance; but too much will make them so thick that it will be difficult to cook them thoroughly without cutting or slicing them, which militates against their appearance at table. It matters little how thick the Mushrooms are when chopped up for flavouring, and Mushrooms are thus often largely used when their presence, except for flavour, would not be detected.

Mushroom Spawn.—It is now a good time for making spawn in dry weather. We have more than once given detailed instructions. Thin cakes are more easily managed than thick ones, as they become dry enough much sooner. Where only a little, or even a few bushels are wanted, it is in every way best and cheapest to purchase from a nurseryman. We know of nothing that has made greater progress than the making of Mushroom spawn, nothing that shows more thoroughly the advantage to be derived from the division of labour. Once in our younger days there was a great inducement to make Mushroom spawn at home. We have had hampers sent from long distances, and it was only worth its weight as a second-rate manure. Now we rarely see a bad cake or brick of spawn turned out. We say this all the more readily because, though we know many firms that would not send out what was not good, we do not know one of the large makers from whom these nurserymen and seedsmen receive the spawn, for very few of these, we believe, make their own. If any try to make it for themselves, by attending to the details previously given, they will find out that the same close attention will be required for a few bushels as if they made some thousands of bushels. It is in this way that the large maker, on the mere principle of the division of labour, will ever be able to make and sell more cheaply than the small maker can. Still, it is well to be able to make Mushroom spawn.

FRUIT GARDEN.

We should have liked to have watered some dwarf Apple and Pear trees in the open air, but we found it beyond our reach. We have no doubt that these trees will be equally fruitful and more healthy next season. This year they have dropped their fruit, in some cases rather beyond the thinning point, and the foliage still shows traces of the awful scorching the trees had last season. Though the buds are looking healthy, the foliage has not the fine deep green it used to have. Besides watering our houses, and syringing walls, as a relief after these hot days, our chief work has been planting-out and potting Strawberry plants for forcing. At the end of the week we slightly shaded orchard houses and the Fig house with whitened water, merely throwing it on slightly with the syringe. This greatly moderated the heat, and rendered watering less necessary. Sprinkling the paths and floors did much to keep an agreeable coolness.

ORNAMENTAL DEPARTMENT.

We have been potting, and cutting-making for the flower garden. We have put in our first batch of Verbenas, &c., are following fast with Variegated Pelargoniums, and will proceed next with the zonal and plain-leaved kinds, using chiefly shallow boxes—say 2½ feet long, 1 foot wide, and 4 inches deep. We become every year fonder of simple methods. We seldom use anything for these boxes except sandy loam riddled, the riddlings to go at the bottom, and a sprinkling of sand on the surface. For the sake of economy, we find pots and boxes better than inserting the cuttings in a border, as we thus save the trouble of lifting, and either potting or boxing. We have put some hundreds of Centaurea in small pots singly, or two in a 3-inch pot, with a piece of slate between them. We shall find a frame or cold pit warm enough for all such cuttings, Verbenas, &c.; and the open air will do for Pelargoniums of all kinds, only if a little shaded and protected they will not flag, though that with good strong cuttings is of little consequence.

In the pleasure grounds, in using the mowing machine, we passed over the grass lightly, as we were afraid to cut too closely, in case this weather should continue; this day (August 28th) being excessively trying, but a falling barometer leads us to hope for a change. People continue telling us, Give us general principles, if you like, but give us the details of your own practice. To-day we have watered nothing in the flower garden, except some lines of Salvia fulgens, and some edgings, very pretty ones, of the purple-leaved Oxalis. Calceolarias are still very fine without watering. Scarlet Pelargoniums have long prevented any ground being seen. We knew they were very dry at the surface, but then the roots were going down after moisture, and, except in the hottest part of the day, showed no signs of distress. A surface-watering would have done no good, and especially in such cloudless days. If the weather, as we expect, prove cloudy next week, or even if a few passing gentle showers should come, we shall most likely water Calceolarias. We attribute the plants' standing the heat and drought so well chiefly to mulching when we thought the soil had become warm enough. Some visitors who have discarded Calceolarias, begin to see that a garden is tame without the yellow, and we have reason as yet to be satisfied with ours. Last season was very trying, because after our hottest and driest days we had no dew at night. Moisture seemed to have bid us good-bye; but after the hottest days of this week the clear sky at night was accompanied, as we generally expect it to be, with a heavy deposition of dew, which filled out the tissues of the stems and leaves. The wise laws of compensation often come in to our aid. In a hot, sunny day there is more vapour generally in our atmosphere, and then how grateful is the gentle refreshing dew in a clear, calm night. To end almost as we began, we have heard of some flower gardens that are not what they used to be, and yet the water has been abundant, and used most unsparingly as respects frequency, and often in large quantity. We believe if the plants had

been watered much more seldom that they would have thriven better. In dusty, exposed places a slight syringing overhead is different from always drenching the roots.—R. F.

COVENT GARDEN MARKET.—September 1.

Large quantities of the coarser descriptions of vegetables and fruits are supplied and exchange hands freely. The supply of good Plums, with the exception of Victoria, is unusually short; and owing to the heavy importations of foreign varieties, high prices cannot be obtained. Apricots seem to have gone altogether for this season. Potato trade dull.

FRUIT.

	s.	d.	s.	d		s.	d.	s.	d
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	3	0	6	0	Nectarines ..... doz.	6	0	10	0
Cherries ..... lb.	0	6	1	0	Oranges 100	10	0	14	0
Chestnuts.... bushel	0	0	0	0	Peaches ..... doz.	8	0	16	0
Currants .... ½ sieve	4	0	4	6	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	5	0	0	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	2	0	4	0	Plums ..... ½ sieve	3	6	5	0
Filberts ..... lb.	1	0	0	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	1	0	0	0	Raspberries ..... lb.	0	6	1	0
Gooseberries .. quart	0	0	0	0	Strawberries .... lb.	0	0	0	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts .....bushel	10	0	16	0
Lemons 100	8	0	12	0	do. 100	1	0	0	0

VEGETABLES.

	s.	d.	s.	d		s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Kidney ½ sieve	2	6	4	0	Mushrooms .... pottle	3	0	0	0
Beet, Red ..... doz.	2	0	3	0	Mustd. & Cress, punnet	0	2	0	3
Broccoli ..... bundle	0	0	0	0	Onions..doz. bunches	4	0	6	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	2	0	2	6	Peas ..... quart	0	6	1	6
Carrots ..... bunch	0	8	1	0	Potatoes ..... bushel	2	6	4	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	5	0	0	0
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb ..... bundle	0	0	0	6
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	8	0	0	Tomatoes ..... doz.	1	6	3	0
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	6
Horseradish .. bundle	3	0	5	0	Veget. Marrows .. doz.	1	0	2	8

TRADE CATALOGUES RECEIVED.

Downie, Laird, & Laing, Stanstead Park, Forest Hill, London, S.E., and 17, South Frederick Street, Edinburgh.—*Descriptive Catalogue of Dutch Flower Roots.*

George John Child, 49, Darley Street, Bradford, and Bradford Nurseries, Shipley.—*Catalogue of Dutch Bulbs, &c.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Seedling Plum and Apple (*W. Champion*).—Neither your Plum nor Apple is good enough to be introduced as new and desirable.

Williams's Bon Chrétien Pear (*Old Subscriber*). — It should be gathered before it becomes yellow. If allowed to ripen fully before gathering, it turns mealy and decays at the core.

Fungus on Plum Leaves (*Clericus*).—The fungus on your Plum leaves is Puccinia prunorum, *Lk.* The yellow base is the early Uredo form of the same species. It occurs, we believe, wherever Plums are cultivated. —M. J. B.

Gooseberry and Currant Trees after Fruiting (*Amateur*).—You need not do anything to your Gooseberry and Currant trees for the present. Let them ripen their wood, and prune them in winter in the way we intend shortly to explain at full length.

Pruning Bush and Pyramid Fruit Trees (*Idem*).—If your trees have been properly attended to in respect to the summer pinching, they should require but little pruning. You may, however, shorten some of the shoots any time after the fall of the leaf; then pinch the points of the growing shoots as they appear, in the same way as we continually recommend in these columns. Before transplanting, give your tenacious soil a liberal dressing of unslaked lime and burnt soil, so to render it a little more friable.

Peach Leaves Injured (*Vicar*).—We incline to think that earwigs and woodlice are attacking the leaves of your Peach trees, and Beanstalks, &c., would be good traps. We discovered a few red spider; and plenty of the syringe, and weak, clear, soft-soap water would be the quickest cure, unless you used Gishurst, after making it and allowing it to settle in a pail before putting it into the engine or syringe-pail. The curl and blister at the points of the shoots show there is a want of reciprocal action between roots and shoots; these blistered parts should be removed, nothing will make them healthy again. So much for the first look at the leaves. On examining them more minutely, we fear that fungus will be found at the roots, and if so nothing will cure it but a little sulphur in the soil, which should be removed from the roots when these are at rest, replacing it with fresh sandy loam.

Grapes Colouring Without Swelling (*An Old Subscriber*).—Your case of usually productive Vines, now refusing to swell their berries before colouring, is one of those apparent mysteries which it is most difficult to account for. Perhaps the tendency to shrivel and shank in the earlier house may form some clue as to the cause, and as the Vines are so healthy, it is not likely that the same result would be repeated. We throw out the idea that the crops of previous years may have somewhat exhausted the fruitfulness of the Vines, and as the later houses chiefly suffer, we should be inclined to think that the wood had become overindurated in the excessive heat of last summer, with, perhaps, an insufficient amount of moisture at the roots. We have suffered a little in a late vinery, and more particularly in a late orchard house, and we think from the latter causes, as the early houses had more attention as to moisture, &c., than the late ones could have, when we could scarcely keep them alive in the excessive heat.

Cultivating Mushrooms in the Open Air (*Vicar*).—What are your resources, the position of the place, or the circumstances in which you propose to cultivate? for without knowing these we might specify many modes, and yet not one of them suit you. For instance: we have inserted spawn in a piece of ground, much as we would Potatoes, 2 inches deep from the surface, beat the ground rather firm, and covered it with a little litter to keep the place in a medium condition of heat and moisture. We have done the same, drawn out a ridge as for dwarf Peas or Beans, put in from 3 inches to 6 inches of horse droppings, in these inserted the spawn, and covered up as above. Again, we have used a deeper furrow or trench, treated it in the same way, and 18 inches on each side sowed with Altrincham Carrots, and by the time the Mushrooms appeared, the Carrots kept them sufficiently shaded to render it unnecessary to have any litter. We have also had good produce in beds in the open air intended for Vegetable Marrows and pickling Cucumbers. In all cases, however, where large continuous gatherings were wanted, we would make regular beds in the open air, say of litter and horse droppings; if on the flat, from 12 to 18 inches deep; if in the ridge form, from 30 to 36 inches wide at the base, and almost as high to the apex. In both kinds of beds the Mushrooms must be protected from the changes of the weather, as too much dryness, too much moisture, and too much heat are equally prejudicial to the Mushroom. In the hottest days in summer and autumn, with the thermometer ranging from 85° to 90° in the shade, we have had the surface of these ridged beds, and in an open space too, not more than 62°, owing to the rough litter keeping off the heat, assisted, too, in this respect at times by a sprinkling of water over the litter, which tended to cool the bed and produce a moist close atmosphere close to the surface where the Mushrooms were. The advantage of a shed open on all sides, or on one side, or even closed all round, is chiefly this, that you have your bed so far protected from heavy rain, snow, &c.

Lucern (*T.*).—By all means plough it up and sow again; or if you would rather not, give a dressing of superphosphate of lime or wood ashes.

Basket Plants for a Greenhouse (*W. E.*).—Convolvulus mauritanicus, Saxifraga sarmentosa and S. Fortunei, Sedum carneum variegatum, Campanula garganica, and Tradescantia zebrina.

Sedum carneum (*T.*).—It is hardy in light, sandy, dry soils, especially in soils which are gravelly; but in heavy, wet ground it is liable to injury from frost, and sometimes perishes. The variegated form ought to be wintered in a cold pit or greenhouse, hardened-off, and planted out in spring, but it survives the winter in open, well-drained soils. It forms a fine edging to a flower bed. We winter it in a cool, dry pit, where it needs no water all winter. It is readily propagated by cuttings in sand during the summer. To winter the plants thus obtained, they ought to be well rooted by September, potted in poor sandy soil, and well exposed before severe weather sets in.

Spring Gardening (*P.*).—With the common Primrose, white and red Daisies, common and variegated Arabis, you will be able to make a tolerably good display, if you have Crocuses, Hepaticas, Winter Aconite, and Snowdrops, all of which will flower some time before those you name, and the Tulips and the plants first mentioned will succeed them. We would add Alyssum saxatile, Aubrietia deltoides, and the Aucuba-leaved Daisy. Of annuals you may now sow Silene pendula, Limnanthes Douglasii; Candytuft, purple, crimson, and white; Erysimum Peroffskianum, Virginian Stock, Saponaria calabrica, and Eschscholtzia californica; and if the winter be not unusually severe they will be very useful for blooming next spring and early in summer. We have found them withstand the winter farther north than you, and in a more smoky town than Manchester.

Propagating Stachys lanata (*Idem*).—You may sow the seed now in sandy soil in a warm situation, and keep the ground moist but not very wet. The plants would then, perhaps, gain sufficient strength to stand the winter, and might be planted out next May. The best mode of propagation is by cuttings, or by slips which in most cases have roots partially formed. All that is required is to pare the end smooth below a joint, trim off a few of the lower leaves, and insert the cutting in sandy soil in a shady place now, early in April where the plants are to remain, and throughout the summer. Plants from cuttings are better than those from seed. They do not grow so vigorously, are of more prostrate habit, and of far better colour. Stachys lanata is an excellent plant for carpeting, edgings, and broad lines, especially in shady positions. Plants are not expensive. In some places cuttings could be had by the cartload.

Pelargoniums Stanstead Rival and Lady Hawley.—In the Floral Committee report, page 144, the colour of Stanstead Rival should have been stated as dark crimson, that of Lady Hawley as light orange scarlet

Wintering Pelargoniums (*R. S.*)—In your case, when you have a heated conservatory, all you have to do is about the beginning of October to take up your Pelargoniums and put them in pots suited to their size, and store them in the conservatory. They will bloom all the winter. The cuttings, which should be taken off now, will serve for bedding-out next season.

Lynmouth and Ilfracombe (*An Old Subscriber*).—They are the most beautiful English sea-coast towns we know. You will have no difficulty in obtaining admission to the gardens near. They are open to the public on certain days weekly. You will see some notes in our Journal on the combes there shortly. Lynton and Lynmouth just now are overflowing with visitors.

Cacti and Mesembryanthemums for Window Culture (*Salopian*).—Of succulents for the window, we would select of Cacti, incurva, tenuifolia, and aristata; Cereus speciosa, Malkisonii, flagelliformis; Cactus Melocactus; Sedum Sieboldii; Sempervivum arboreum and tectorum; Echeveria gibbiflora Crassula coccinea; and the following Mesembryanthemums or similar ones—viz.:—Mesembryanthemum calycinum, densum, crassifolium, filamentosum, floribundum, glauce-cens, lævigatum, rubro-cinctum, sarmentosum, serrulatum, subulatum, and virgatum. These trail less or more, all will be easily managed, and will need to rely entirely on the dew they may be grown in sandy loam with a little brick rubbish and leaf mould. They should have good drainage, and be potted firmly.

Management of Blandfordia flammea (*J. B.*).—The Blandfordias are Liliaceous plants like the Hemerocallis, with evergreen foliage. B. flammea is a strong-growing bulbous plant, from Australia, and should, like the Hyacinth, receive but little moisture after the leaves fall until growth again commence.

Flowering Æschynanthus grandiflorus (*Idem*).—Give a little sweet rotten cow dung, and some loam and heath soil, in addition to your sphagnum and crocks. In winter give little water, and in spring and summer you may expect free-flowering. Either the soil is too poor, or you have kept the plant growing constantly without any resting period. If the rest can be conveniently given in a bright autumn so much the better. The rest then would be as much sun as possible, and as little water as would keep the plant from flagging.

Carnation (*A Lady in Cheshire*).—It is no novelty. We cannot name the varieties of florists' flowers.

Gardening Arithmetic (*J. T. B.*).—Since you do not consider the problem solved, we presume you already know the solution. However willing we are to give information on all gardening subjects, you must not ask us to occupy our time in working sums in simple arithmetic.

Nurserymen's Hours (*G. B.*).—Some of the nurseries about London close at five on Saturdays; but we know of no rule to that effect. It much depends on the nature of the business of the establishment.

Rendle's Plant Protectors (*C. A. R.*).—See last number. Further particulars are the province of an advertisement.

Riddell's Slow Combustion Boiler (*G. Brown*).—It is good, but all boilers may be made slow-combustion if suitably treated.

Heating a Small Greenhouse (*An Amateur*).—As we know nothing of the dimensions or other circumstances, we can only give a general answer. On the score of economy, we would prefer a flue to a boiler, and one of the best modes of having the flue would be to have it below the floor, so that the tile covering would form part of the flue. For cleanliness, however, the hot water would be best, and a saddle boiler of a small size—say 20 inches by 14 by 14, costing about 50s. would suit you.

Names of Fruits (*Pomona*).—Williams's Bon Chrétien. (*H. Foy*).—*Apples*: 1, Keswick Codlin; 2, Hawthorden. *Pears*: 1, Beurré d'Aremberg; 3, Glou Morceau; 5, Dunmore.

Names of Plants (*Ah*).—We cannot undertake to name plants from their leaves only. (*M. C.*).—*Empetrum nigrum*. (*Old Subscriber*).—*Clethra alnifolia*. (*T. H. C. D.*)—No. 1, Atropa Belladonna; 3, Medicago sativa; 2, Impossible to name from the scrap sent. Forward a more complete and further-developed specimen. (*Carofine*.—Impossible to name from a single leaf. (*W. E.*).—1, Too young to determine; perhaps Pteris excelsa; 2, Polystichum aculeare; 3, Not a Fern.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending August 31st.

Date.	Barometer.		Thermometer.				Wind.	Rain in inches.	General Remarks.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 25	30.175	30.151	84	50	63	60	S.E.	.01	Foggy; very fine; clear and fine at night.
Thurs. 26	30.191	30.164	83	53	64	61	S.E.	.00	Foggy; very fine; clear and very fine.
Fri.... 27	30.220	30.159	86	52	65	61	E.	.00	Very fine; exceedingly fine; clear, starlight.
Sat.... 28	30.064	29.927	89	48	66	61	S.E.	.00	Exceedingly fine; very hot; clear and fine, foggy.
Sun... 29	30.065	29.854	64	50	63	61	N.	.00	Overcast; densely overcast; cloudy and overcast.
Mon... 30	30.225	30.142	68	33	61	60	E.	.00	Cloudy; densely clouded, cold wind; clear and fine.
Tues.. 31	30.298	30.248	69	30	59	59	N.E.	.00	Very fine; cold wind; clear and fine, frosty air.
Mean..	30.177	30.092	77 57	44 29	63 00	60.28	...	0 01	

POULTRY, BEE, AND PIGEON CHRONICLE.

LIGHT BRAHMAS, AND CROSSING THEM WITH DORKINGS.

In a recent number of your Journal Mr. Warren, the obliging and active Honorary Secretary of the Southampton Show, was good enough to refer to my efforts to get justice done to the Light Brahmas by obtaining a separate class for them at the leading shows, and also by getting up cups to be freely competed for by all breeders of that variety. As one who has stood by them all along, and who recognised their beauty and usefulness when they had few friends, it is very gratifying to me to see how popular and numerous the Light birds have become. Mr. Warren calls attention to the fact, that at Southampton little short of £20 has been raised for extra prizes by the Light Brahma-breeders; and, as another fact, I may mention that at Birmingham, in the last three years, the Light Brahma-breeders have contributed no less than five pieces of plate, amounting in money value to about £30. The Light Brahma-breeders felt that, having done so much, besides paying heavy entrance fees, they had some claim on the Birmingham authorities, and it was proposed this year again to raise a cup by subscription if the authorities would contribute another from their funds. Although the Birmingham Council have given cups out of the show funds for other breeds of poultry, the supporters of which breeds had not themselves contributed any cups at all. I regret to say that the proposal of the Light Brahma-breeders has not been accepted, and I am afraid we shall not see a Light Brahma cup at Birmingham this year.

In other quarters the prospect is more cheering. We have a new and potent ally in Mr. Rodbard, who is getting up cups for the Light Brahmas at Bristol, and Mr. Crowley is doing the same good work at Southampton.

As a proof of the increased and increasing popularity of the Light Brahmas, I may add that at several recent shows they have formed the most numerous classes. At the Bath and West of England Show at Southampton, with equal prizes offered, there were sixteen pens of Light Brahmas to eight of Dark, or exactly two to one. At Reading the Light Brahmas outnumbered every other class in the show. At Ipswich twelve Light cocks were exhibited against eight Dark. In these cases, also, the prizes offered were equal.

Allow me, before concluding, to confirm the remark of your correspondent, "E. M. B. A.," as to the value of the cross between the Dorking and Light Brahma for table purposes, and this I can best do by an instance within my own knowledge. I well remember sending my famous old cock, "Sampson," which some of your readers remember, and whose victories at so many shows were duly recorded by you at the time, to a run at a neighbouring farmer's, who kept Dorkings. When the London higgler appeared to buy the farmer's chickens, he said at once, "Your chickens are finer, and worth more money, than they were in former years." The farmer obtained a better price, and to the day of his death borrowed one of my Light Brahma cocks to run with his Dorkings.—John Parks.

COMPOUND FOOD FOR FOWLS.

As far as I can understand "E. M. B. A.," the great and only objection he has to the food is, that once used it becomes to the bird a necessity of existence. I hardly think the comparison which "E. M. B. A." institutes between the effects produced by my food on chickens, and that of brandy on the human frame, will hold good. What would be the consequence of daily administering stimulants to an infant? Should we find rapid growth and development, perfection of form, the various functions of the body healthy, and vigorous offspring? or should we not rather find debility, stunted frame, premature maturity, early decay, and a total inability to perpetuate the species? Yet the first are the effects of my food, and "E. M. B. A." does me the justice to say, "unquestionably it is good for chickens," and the only objection he can take to it is that, once used, fowls will not, or rather cannot do without it. This

ought not to be an objection, provided economy is not neglected and success ensured. I need hardly point out more than one fact to you to entirely disprove this theory of "E. M. B. A." At the present moment there are thousands of Pheasants which have been reared on the food till fit to go into the covers, and are then turned out in great part to forage for themselves. What difference can exist between the Pheasant and the fowl? If any, it is simply this, that whilst the Pheasant, used to the soft lap of luxury, and turned out to roam and forage for its existence, is, to a certain extent, exposed to the variations of temperature and season by day and night, the fowl, on the contrary, is provided with nutritious food at stated times, warm shelter, and has every care and attention paid to it on the slightest appearance of ailment. That chickens reared on the food go back when it is omitted in their daily diet is unquestionable, and I think it one of the strongest arguments in its favour.

"E. M. B A." kindly cautions his readers against purchasing fowls which have been fed on my food, as in all probability they will lose them when it is discontinued. I am a large breeder of Game fowl exclusively, and send away some hundreds during the season to parties who never have, and perhaps never will use the food. Every bird of these has been reared on it from the day it was hatched till sent away, and yet is there a purchaser of any of my fowls (and amongst your readers there must be many) who can come forward and say he has lost a single mature bird when deprived of it? or, to go even further, will any fancier who, after a bird has come into his possession as a fresh purchase, say he has found his acquisition droop and die?

Here is the clue to the whole. I can gather from the letter of "E. M. B. A." that he deputes the attention of his "yards" to other people, for does he not say, "I found that Dear's food had been omitted for a week?"—*ergo*, he was unaware of what was taking place for a week. Mr. Wragg, Mr. Loe and myself, are practical men, who personally superintend our yards, see that every order given is rigidly carried out, and that the most minute details of daily occurrences in connection with them are instantly communicated to us. Here is where nine out of ten fail to rear their chickens, or show a winning pen of birds. —H. C. Dear, *North Stoneham Park, Southampton.*

[We have been obliged to omit much from this communication, and must decline inserting any more on the subject.—Eds.]

FEEDING POULTRY.

Of the circumstances under which I have observed fowls healthy and unhealthy, I shall first describe those in which they were in the former condition. This was where they had a free run, plenty of light food—such as mashed potatoes with a little grain, so that the crop was kept well distended, and the contents easily digested—plenty of water, abundance of buttermilk, the latter being beneficial to an irritable constitution, and lastly, the house so ventilated that a candle would burn brightly in it without flickering. Under such treatment poultry lay well, are firm in flesh, and I have scarcely ever found them otherwise than healthy.

I now come to fowls which are shut up part of the day. When partly confined, more green vegetable matter should be given, and less strong food, with an abundance of drink mixed with gelatinous matter. They ought to have their liberty early in the morning, as then is their natural time to seek dainty morsels—in fact, it is the only time they can find them; so that poultry not let out until the after part of the day might as well be not let out at all. Poultry wholly in confinement ought to be fed in the morning with light food partly consisting of green vegetables, plenty of milk and water, and grain, which ought to be crushed, and given only at night as their last meal. When let out in the morning, attended to properly, and much irritating food is not given, fowls are generally healthy. With those wholly in confinement I have found more difficulty; but whenever abundance of milk, vegetables, and clean sand were given, they were healthy. It is vain to expect the same number of eggs from fowls kept in as from those at liberty. Encouragement to lay only brings on disease and shortens life. Such has been my experience.—A Lanarkshire Bee-keeper.

THE HEN FEVER.

Why should not people have the "hen fever?" The hens are happily free from it. From Christmas time to near spring, fresh-laid eggs are worth from 3 to 6 cents a-piece, 40 to 60 cents a-dozen, and rarely less than 3 dollars a-hundred. From May to September, "broilers,"—that is, full-fledged chickens weighing 1 to 2 lbs. each, and usually 3 lbs. to the pair, will sell at from 1 to 2 dollars a-pair, alive.

The demand for eggs is insatiable. The "transactions" in New York alone are estimated to amount to some 3,000,000 dollars or 4,000,000 dollars a-month; and during the cool weather from September to April, the sales in the dead-fowl market, not exclusively chickens, however, probably exceed these figures. The value of poultry-yard products in the whole country is said to be not less than 100 000,000 dollars a year. The best breeds for eggs are not the best as winter layers. The best for flesh are not the best for eggs, nor are those which quickly attain marketable size the best for fattening for the fall and winter market. The most beautiful fowls are found among those famous as layers, yet this class includes also the homeliest. Every breed has its uses, each has its fanciers; some are in fashion now, others will be two years hence.—(*Boston Cultivator.*)

DORKINGS AT THE WHITWORTH AND ROCHDALE POULTRY SHOW.

An observation in the account of this Show in last week's number, to the effect that "the Dorking classes were scantily filled," has led me to look at the catalogue, from which I find that the chicken entries were more numerous than in any other class, with the exception of the selling class. There were, in fact, twelve pens entered, three of which were highly commended, in addition to the two prize-winners. Your correspondent's observation must, I think, refer to the adult class, for which there were four entries only. I question, indeed, whether committees are wise in offering prizes for Dorkings over one year old during the moulting season. Few breeders, unless their yards are very large, can make up a good pen of adult birds from July to October, and the small entry of this class at Rochdale points to the same conclusion.—An Exhibitor.

THE UTTOXETER POULTRY SHOW

This Show was held on August 27th, in a very large tent well adapted for the purpose. The ventilation was excellent, and the shade afforded to the really oppressed poultry was most acceptable. The day was excessively hot, and we regret to say several very valuable fowls died during transit by rail to Uttoxeter; consequently, apart from the money value of the fowls, the pens of which they formed part were rendered incapable of prize-taking. As our pages may be read by some of the railway officials, we would draw attention to the want of judgment shown in stowing as many baskets as possible of the most valuable of exhibition poultry in a van, without ventilation, and exposed to the burning rays of the sun. This, beyond question, is the cause of the serious losses we have named. A proper admission of air to highly-fed poultry, more especially when closely packed, is indispensable, otherwise serious injury, and often death, will be the consequence. Railway managers cannot be too careful on such occasions. We cannot speak more highly than they deserve of the strenuous efforts of Messrs. Banting, Dams, and others of the Committee, in doing all they could, on the arrival of the birds, to counteract the influences just named. The birds being placed in large open pens without delay, and supplied with abundance of spring water, we believe not a single death took place after arrival; though many when they arrived looked faint and almost hopeless. Those found dead on opening the baskets were carefully returned to the owners for their inspection.

The Show was admirable, the Dark *Brahmas* taking a strong lead as public favourites. The *Hamburghs* and Grey *Dorkings* were not less commendable. In a good class for *French* Fowls, Crève-Cœurs were first, and Houdans second, no La Flèche being shown. The *Geese*, *Turkeys*, and *Ducks* were first-rate. The general classes were confined to birds of the present year; but earnestly desirous to meet the wishes of every patron, the Committee wisely added a general class for "Any variety of poultry, irrespective of age." A valuable pen of *Spanish* received the first prize, and unquestionably the very best pen of Golden-spangled *Hamburghs* shown at Uttoxeter the second. The Exhibition was exceedingly well filled, a Horticultural Show being united to it, and the satisfaction of the visitors was freely expressed.

Dorkings (Any variety).—1 and 2, Mrs. Arkwright, Etwall Hall, Derby. *hc*, G. A. Crewe, Etwall, Derby; Miss E. Williams, Heullys Berriew, Montgomeryshire (White Rose-combed); E. Leech, Rochdale. *c*, Rev. E. Bartrum, Great Berkhampstead (Coloured); Lady Bagot, Blithfield Hall (Grey).

Cochin-China (Any variety).—1. T. Rogers, Walsall. 2, J. Robinson, Garstang (Buff). *hc*, G. A. Crewe (Buff).

Game (Black or Brown-breasted Reds).—1, Rev. T. O'Grady, Hognaston Vicarage, Ashbourne (Black-breasted Red). 2, G. Bagnall, Draycott, Cheadle. *hc*, J. Platt, Swanlow, Winsford (Red); G. Bentley, Stone,

Staffordshire (Black-breasted); C. Minors, Sudbury, Derby (Brown-breasted Red); G. Batthew, Uttoxeter (Black-breasted).

Game (Any other variety).—1, Withheld. 2, W. H. Mitchell, Moseley, Birmingham. Extra 2, T. Rogers.

Hamburghs.—*Golden or Silver-pencilled.*—1, Duke of Sutherland, Trentham Hall. 2, Col. Fitzherbert, Somershall Hall. *Golden or Silver-spangled.*—1, T. Bolton, Handford, Stoke-upon-Trent (Golden). 2, Ashton and Booth, Broadbottom, Mottram. *hc*, T. May, Wolverhampton; Duke of Sutherland.

Brahma Pootra (Any variety).—1, Rev. E. Alder, Etwall Vicarage, Derby. 2, C. Layland, Morrisbrook Villa, Warrington. *hc*, A. O. Worthington, Burton-on-Trent (Light); Rev. E. Alder (Dark); E. Leech. *c*, J. Holmes, M.D., Chesterfield (Dark).

French Fowls (Any variety).—1, Miss E. Williams (Crève-Cœur). 2, R. B. Wood, Uttoxeter (Houdans). *hc*, W. O. Quibell, Newark (Houdans); W. Dring, Faversham (Houdans).

Ducks.—*Aylesbury.*—1, E. Leech. 2, Lady C. Sheppard, Crakemarsh Hall. *Rouen.*—1, E. Leech. 2, G. Bagnall. *hc*, J. H. Lasbrey, Uttoxeter.

Geese (Any colour).—1, E. Leech. 2, G. Bagnall (Toulouse). *hc*, G. A. Crewe, Etwall, Derby; G. Bagnall. *c*, F. E. Richardson, Bramshall, Uttoxeter (Toulouse).

Turkeys (Any variety).—1, E. Leech. 2 and *hc*, F. E. Richardson (Cambridge).

Extra Class (Any variety).—1, J. Mansell (Spanish). 2, T. Bolton, Handford, near Stoke-upon-Trent. *hc*, J. Mansell, Longton (Polands); H. Bagshaw, Uttoxeter (Black Hamburgh); G. A. Crewe (Grey Dorkings); A. O. Worthington (Partridge Cochins); C. Layland (Dark Brahma); R. B. Wood, Uttoxeter (Houdans); Mrs. Dring, Faversham (Houdans); W. O. Quibell (Houdans); G. Bagnall (Game); Duke of Sutherland. *c*, J. Bakewell, jun., Uttoxeter (Coloured Dorkings); Rev. T. O'Grady, Ashbourne (Silver-Grey Dorking); S. Bagshaw (Partridge Cochins); Duke of Sutherland.

The Judge was Edward Hewitt, Esq., of Sparkbrook, Birmingham.

BURNLEY POULTRY SHOW.

This Show, which forms a part of the North Lancashire Agricultural Society's Meeting, took place on the 26th ult., and a liberal prize schedule was productive of a good competition. It was held in an open field, and the intense heat of the midday sun was so insupportable that not only were the Judges compelled to rest at intervals, but some of the most ailing of the birds had to be taken from the pens and placed in their baskets in the shade, to prevent sunstroke. A slight protection of some kind from both sun and rain would be a great improvement.

The Grey *Dorkings*, *Cochins*, and *Brahmas* were decidedly the best classes, though the *Geese*, *Ducks*, and Ornamental *Water Fowl* were very good. Mr. Brierley's cup *Game* cock was splendidly shown, but the Game fowls generally were deficient in quality.

Dorkings (Grey).—1, J. Stott, Healey, Rochdale. 2 and *hc*, D. Parsons, Cuerden, Preston.

Dorkings (White).—1, G. and C. Furness, Accrington. 2, D. Parsons.

Brahma Pootra.—1, J. H. Pickles, Birkdale, Southport (Dark). 2, E. Leach, Rochdale (Dark). *hc*, J. Heap, Todmorden. *c*, W. Hargreaves, Bacup (Dark).

Spanish.—1, C. W. Brierley, Middleton. 2, H. Wilkinson, Earby, Skipton. *hc*, H. Beldon, Goitstock, Bingley.

Game (Any colour).—1, C. W. Brierley. 2, T. Wareing, Preston.

Cochin-China.—1, T. Stretch, Ormskirk. 2, C. Sidgwick, Ryddlesden Hall, Keighley. *hc*, Mrs. Wilkin, Bootle, Holborn Hill, Cumberland (Buff); C. W. Brierley.

Hamburghs (Golden-pencilled).—1 and 2, H. Beldon. *hc*, H. Pickles, jun.

Hamburghs (Silver-pencilled).—1 and 2, H. Beldon. *c*, J. Robinson, Garstang.

Hamburghs (Golden-spangled).—1, H. Beldon. 2, S. & R. Ashton, Roe Cross, Mottram, Cheshire. *hc*, J. Newton, Silsden, Leeds. *c*, H. Pickles, jun.

Hamburghs (Silver-spangled).—1, H. Beldon. 2, J. Robinson. *hc*, H. Beldon; J. Robinson.

Poland.—1 and 2, H. Beldon.

Bantams (Any colour).—1, H. Beldon. 2, C. W. Brierley. *hc*, E. L. Waddington, Heasandford, Burnley. *c*, D. Parsons; W. F. Entwisle, Leeds; B. Bee, Goosnargh, near Preston (Game, Black-breasted Red).

Crève Cœur.—1, C. Layland, Warrington. 2, H. Wyndham, Beverley, Yorkshire.

Houdans.—1, W. O. Quibell, Newark, Notts. 2, Mrs. Wilkin.

Single Cocks.—Dorking.—1, W. H. Butcher, Preston. 2, T. Briden, Earby, Skipton. *hc*, D. Parsons, Cuerden, Preston (Grey). Game (Any colour).—1 and Cup, C. W. Brierley. 2, R. Payne. *hc*, E. L. Waddington, Heasandford, Burnley.

Geese.—1, E. Leech, Rochdale. 2, T. Houlker, Revidge, Blackburn. *hc*, Rev. G. Hustler, Stillingfleet, York; S. H. Stott, Rochdale.

Ducks (Aylesbury).—1, M. Seamons, Hartwell, Aylesbury, Bucks. 2, J. Robinson.

Ducks (Rouen).—1, E. Leech; 2, T. Wareing, Preston. *hc*, T. Houlker, Revidge, Blackburn; J. Newton; J. Robinson.

Ducks (Any other variety).—1, C. W. Brierley. 2, A. & T. Trickett, Waterfoot, near Manchester. *hc*, C. W. Brierley.

Turkeys.—1, E. Leech. 2, S. H. Stott.

YOUNG POULTRY.

Dorkings (Grey).—1, Stott, Healey, near Rochdale. 2, T. Briden, Earby, Skipton. *hc*, J. Robinson. *c*, W. H. King, Rochdale.

Dorkings (White).—1, J. Robinson. 2, D. Parsons. *hc*, Mrs. M. Fairhurst, Woodlands, Ormskirk.

Spanish.—1, H. Beldon. 2, H. Wilkinson.

Game (Any colour).—1, J. Farrer, Thorneyholme, Burnley (Brown-breasted). 2, R. Payne, Brierfield, near Burnley (Brown Red). *hc*, H. Martin, Ulverston (Duckwing); J. Farrer (Brown-breasted); J. Carlisle, Earby, near Skipton (Brown Red).

Cochin-China.—1 and 2, C. Sidgwick, Ryddlesden Hall, Keighley. *hc*, J. Robinson.

Hamburgh (Golden-pencilled).—1, H. Beldon. 2, W. Carr, Patricroft, Manchester. *hc*, H. Pickles, jun., Earby, Skipton.

Hamburghs (Silver-pencilled).—1, H. Beldon. 2, H. Pickles.

Hamburghs (Golden-spangled).—1, H. Beldon. 2, No competition.

Hamburghs (Silver-spangled).—1, W. Bairstow, Ferncliff, Bingley, Yorkshire. 2, H. Beldon. *hc*, W. Bairstow; J. Robinson.

Polands.—1 and 2, H. Beldon.

Bantams.—1, G. Anderton, Accrington. 2, W. F. Entwisle, Leeds. *hc*, H. Beldon; E. L. Waddington, Heasandford, Burnley. *c*, W. F. Entwisle.

Geese.—1, E. Leech. Equal 1, Mrs. M. Seamons. 2, Rev. G. Hustler, *hc*, J. Lancaster, Burnley.

Ducks (Aylesbury).—1 and *hc*, Mrs. M. Seamons. 2, E. Leech. *c*, S. H. Stott.

Ducks (Rouen).—1, E. Leech. 2, C. Sidgwick. *hc*, W. Bleazard, Brierfield, Burnley; J. Robinson.

Ducks (Any other variety).—1, A. & T. Trickett. 2, C. W. Brierley.

Turkeys.—1, T. Houlker, Revidge, Blackburn. 2, E. Leech.

Extra Stock.—*hc*, — Wilkin (Paduo Chamois); D. Lord, Stacksteads, near Manchester (Black Hamburghs). *c*, W. Moore, Burnley (Blue Dragon Pigeons); C. W. Brierley (Spanish Geese).

Messrs. Hewitt and Teebay were the Judges.

BIRKENHEAD POULTRY SHOW.

This was held on August 25th and 26th, in Birkenhead Park. The following are the awards made by the Judges, Mr. R. Teebay, Mr. Cox, and Mr. Hindson:—

Dorkings.—1, Viscount Turnour, Shillinglee. 2, E. Leech, Greave House, Rochdale. 3, T. Briden, Earby, Skipton. *hc*, E. Shaw; W. Ravenshaw.

Cochin-China.—1 and 3, W. A. Taylor, Manchester. 2, T. Stretch, Ormskirk. *hc*, J. K. Fowler, Aylesbury.

Brahma Pootra.—1, C. Leyland, Warrington. 2, E. Leech. 3, J. K. Fowler. *hc*, F. C. Haworth, Newfield, Haslingden.

Spanish.—1 and 2, F. & C. Haworth. 3, T. & E. Comber, Warrington. *hc*, R. Davies.

Game.—1, C. Chaloner, Whitwell, Chesterfield. 2, W. Boulton, Dalton-in-Furness. 3, Master J. R. Fletcher, Stoneclough, Manchester. *hc*, Duke of Sutherland, Trentham.

Bantams.—1, T. Sharples, Forest Bank, Rawtenstall. 2, J. Meardle, Liverpool. 3, J. L. Bromfield.

Hamburghs.—1, T. Bolton, Hawford, Stoke-on-Trent. 2, Duke of Sutherland. 3, T. Edwards, jun., Barnton, Northwich. *hc*, A. Hason.

Any other Breed.—1, Hon. H. W. Fitzwilliam, Wentworth Woodhouse. 2 and 3, W. Gamon, Chester (Polish). *hc*, J. K. Fowler (Crève-Cœur).

Game Cock.—1, C. Chaloner. 2, Master J. R. Fletcher. 3, W. Boyes, Beverley. *hc*, J. Statter.

Ducks.—*Rouen.*—1, W. Gamon. 2, S. H. Stott, Rochdale. 3, E. Leech. *Any other Breed.*—1, Mrs. M. Seamons, Aylesbury. 2, E. Leech. *c*, R. M. Townsend.

Geese.—1, Mrs. M. Seamons. 2, J. K. Fowler. 3, E. Leech. *hc*, H. Turner.

Turkeys.—1, E. Leech.

Any Breed.—1, W. Dale.

Pigeons.—*Carriers.*—1, J. Hawley, Bingley, Yorkshire. 2, H. Yardley, Birmingham. *hc*, W. Woolley. *Pouters.*—1 and 2, W. Gamon. *Tumblers* (Almond).—1, F. Dixon. 2, J. Fielding, jun., Rochdale. *hc*, J. Hawley. *Tumblers* (Any other variety).—1 and 2, F. Dixon. *hc*, J. Fielding. *Owls.*—1, Cup, and 2, J. Fielding. *Jacobins.*—1, J. Hawley. 2, H. Yardley. *hc*, J. Hawley; W. Gamon. *Turbits.*—1, J. Fielding, jun. 2, J. Hawley. *hc*, F. Dixon; H. Yardley. *Fantails.*—1, J. Hawley. 2, T. H. Frean, Liverpool. *hc*, F. Dixon; J. Hawley; W. Gamon. *Any other variety.*—1, J. Fielding, jun. 2, H. Yardley. *hc*, G. S. Coombe; F. Dixon; T. Furnival; J. Hawley; J. H. Ivimy. *c*, F. Dixon.

GREEN-HAMMERTON POULTRY SHOW.

This Show, held on the 31st of August, was much larger than any previous one, and the quality of the fowls better. The *Spanish*, *Dorkings*, and *Hamburghs*, were very good.

Spanish.—1, W. & F. Pickard, Thorner. 2, W. Bearpark, Ainderby Steeple. *c*, Miss York, Wighill Park; O. A. Young, Driffield. *Chickens.*—1 and 2, W. & F. Pickard. *c*, H. S. Thompson.

Dorkings.—1, J. & R. Potter, Whixley. 2, W. Bearpark. *c*, Miss Thompson, Kirk-Hammerton Hall; D. W. Brook, Driffield; C. Triffitt, Cattal. *Hens.*—1, D. W. Brook. 2, W. Bearpark. *c*, H. S. Thompson. *Chickens.*—1, W. Bearpark. 2, O. A. Young. Equal 2, C. Triffitt. *c*, T. Seymour, Green-Hammerton.

Game.—1, J. Watson, Knaresborough. 2, W. Bearpark. *c*, J. Watson; O. A. Young; Miss Hawkes, Hunsingore. *Chickens.*—1, W. Bearpark. 2, Miss Hawkes.

Cochin-China.—1, W. & H. Pickard. 2, Miss York. *c*, T. H. Readman, Whitby; J. Walker.

Hamburghs (Golden-spangled).—1, J. Walker. 2, W. Bearpark. *c*, B. Marshall, Knaresborough. *Chickens.*—1 and 2, J. Walker.

Hamburghs (Golden-pencilled).—1, J. Walker. 2, H. S. Thompson. *Chickens.*—1, J. Walker. 2, W. Bearpark.

Hamburghs (Silver-spangled).—1, J. Walker. 2, Miss A. L. Farrer. *Chickens.*—1 and 2, J. Walker.

Hamburghs (Silver-pencilled).—1, J. Walker. *Chickens.*—1 and 2, J. Walker.

Game Bantams.—1, J. Watson, jun. 2, T. Mason, Green-Hammerton. *c*, H. S. Thompson.

Bantams (Any other variety).—1 and 2, J. Walker. *c*, R. Gamble, Boston Spa.

Barndoor Fowls.—1, Miss Thompson. 2, O. A. Young. *c*, J. Cocker.

Nun Monkton; Mrs. Slingsby; C. Triffitt. *Chickens.*—1, J. Cocker. 2, T. C. Buck, Green-Hammerton.

Geese.—1, Miss Thompson. 2, J. Walker. *Goslings.*—1, T. Buck, Green-Hammerton. 2, Miss Thompson.

Ducks (White Aylesbury).—1, H. S. Thompson. 2, O. A. Young. *Ducklings.*—1, O. A. Young. 2, H. S. Thompson.

Ducks (Rouen).—1, C. Graham, Aldborough. 2, O. A. Young. *c*, Mrs. Slingsby. *Ducklings.*—1, O. A. Young. 2, Mrs. Slingsby.

Ducks (Any cross-breed).—1 and 2, J. Walker. *Ducklings.*—1, O. A. Young. 2, T. Buck.

Turkeys.—Prize, W. Firth, Stourton. *Poults.*—1 and 2, W. Cundall.

Selling Class.—1 and *c*, C. Triffitt. 2, H. S. Thompson.

Pigeons.—*Tumblers.*—1 and 2, G. Sadler, Boroughbridge. *Fantails.*—1 and 2, G. Sadler. *c*, J. Walker. *Pouters.*—1, J. Watson, jun. 2, J. Walker. *Any Distinct Breed.*—1 and 2, G. Sadler.

Selling Class.—1 and 2, G. Sadler.

Rabbits.—1 and 2, Miss A. L. Farrer.

Extra Stock.—1, H. S. Thompson. 2, C. Walker, Boroughbridge.

Judges.—Mr. Hutchinson, and Mr. E. Hutton, Pudsey.

RABBITS AND THEIR JUDGES.

If there is truth in the saying, that a man's knowledge of things in general must keep pace with the times (and the knowledge our grandfathers possessed of things in general, and of poultry, Pigeons, and Rabbits in particular, was vastly inferior to ours), I think the poultry-fancier is placed in an enviable position; for, perhaps, there never was a period in the history of poultry and Pigeon rearing and exhibiting when a greater number of competent judges could be found. Their names always inspire the exhibitor with confidence, and prompt him to forward more entries, feeling assured that the points of excellence of the varieties to be decided upon will be observed by a very critical and experienced eye. The varieties are numerous, compared to what they were in our grandfathers' days, when, if one happened to be the owner of a good Game cock and hens, and perhaps one or two more varieties, he was a fortunate man. "The good time coming," I am sorry to say, is yet the hope of the Rabbit-fancier, and, less fortunate than the poultry and Pigeon-fancier, he does not know which way to look for a competent judge of his pets, and they have to be left to the mercy of anyone chosen to award the prizes in some other department of the show. The Rabbits, too, are treated at times in a sort of "anything-will-do-for-them" manner, very unsatisfactory to the exhibitor in its result, and very injurious to any show. If competent judges of poultry and Pigeons will venture an opinion respecting the merits of Rabbits, in justice to the exhibitor they ought to make themselves acquainted with the points of the varieties, just as they have had to do with those of poultry and Pigeons, and not commit themselves, as frequently happens, and thus lay themselves open to censure in consequence of their inexperience.

I am inclined to think that the judging of Rabbits is too little cared for by committees, and no competent judge is provided. This I consider a great injustice to the exhibitor, as he sends his entries in the belief that his specimens will be in the hands of a judge, not of horses, poultry, and Pigeons, but of Rabbits; and when he finds no judge is provided, he very justly complains of the result. I am of opinion that many who decide upon the merits of Rabbits are almost obliged to do so by the secretary or some other of the "powers that be" for the day. I have heard more than one confirm my opinion, by saying that after their real duties were over they had been asked to "look over" the Rabbits, as a sort of "make-weight" or supplement to the arduous duties they were engaged to perform, and which they could carry out well with the knowledge they possessed; whilst the latter was less pleasurable, because they were in doubt as to what they were doing. I know more than one excellent judge of the feathered tribe who has objected to giving his opinion as to the best Rabbits. I think competent men ought to be provided, and I know more than one fully able for the work. If the expense is the objection, that would soon be more than compensated by the increased number of entries, which would be obtained when it was known that a competent judge was to award the prizes. I think competent men might be found within twenty miles of each large show. I am also of opinion that the large breeders and exhibitors of every variety are the most competent judges, as one who exhibits and sees many specimens is generally a critical observer, and I should attach great importance to his opinion.

I would, in conclusion, hint to committees and officers of shows generally, not to exhibit so many specimens themselves. I remember some time ago a show of Rabbits, at which the secretary took nearly one-half the prizes. I admire the decision of some well-known breeders in reference to a show with which they are connected in the north of England, that being not to allow any of their birds to be sent for competition, thus preventing any remarks. I hope some fanciers will state their views on this Rabbit-right question, and suggest a mode of operation for the future, in order to insure justice being done where Rabbits are exhibited.—Himalayan.

DOES THE OLD QUEEN ALWAYS HEAD THE FIRST SWARM?

The above question is one which I have hitherto deemed it almost a matter of course to answer in the affirmative, until induced to arrive at a contrary conclusion, from an incident which has lately occurred in my apiary, and which I mention in case you may think it worth recording in your columns.

On the 2nd of June last one of my hives swarmed, but the original colony remained strong enough to necessitate keeping on a good-sized super for some time afterwards. The hive was one known as "Neighbour's Cottage," but enlarged by me two years ago, to a depth of about 10 inches. It was not long before the bees seemed to diminish in number, and as this retrogression went on, I attempted to account for it by attributing the fact to the extirpation of the drones; but as week after week the condition of the stock became worse and worse, I began to fear that the young queen, which had, as I took it for granted, succeeded the old one, must have met with a calamity while on her wedding trip.

So matters went on until about a week since, when that unfailing sign of a helpless hive manifested itself in the general and continued attack made upon it by robber bees. Having observed before, that in such a case to narrow the entrance, as a general rule, protracts the struggle of defence against victory, but does not avert the destruction of any hive that cannot, under ordinary circumstances, hold its own against all comers, and with a desire, also, to save the robbers themselves from many of them paying a freebooter's penalty, I shut off all communication between the remnant of the colony and the outside world, and at the earliest opportunity I carefully took out and examined all the comb in the hive. First, let me say, there was not a particle of honey to be seen anywhere, and believing that the hive was queenless, I saw, with some surprise, contrary evidence, although this was of the feeblest kind, consisting only of two small patches, one of drone cells, the other of worker larvæ, both of these in all stages from the egg when hardly visible, to the bee just breaking through its covering, suggesting a rate of increase of but two or three a-day. Upon this I searched for the queen and found her with every mark accompanying old age unmistakeably impressed upon her; the legs bent under and carrying their owner as though the effort was a painful one, while the wings were ragged and battered in an extreme degree—an appearance of things which fully accounted for the diminished strength and ultimate destruction to which I have before referred.

Now, this queen's age could not, with every desire to be as polite as possible on the delicate subject, be reckoned at some two and a half months only, taking it as from the 2nd of June last, the date of the swarm; and as no swarm at all issued from the hive in 1868 (the last previous swarm having been sent out on the 12th of June, 1867), this queen cannot be less than two years old, and I believe her age must considerably exceed that. I would with pleasure send the queen to you if you cared to see her; she is still alive and well attended to; but, deprived of her former attendants, and with only a little honey to console her, I fear her term of life must now be brief indeed. —C. H. H.

[On receipt of the above we wrote for the queen, but unfortunately she had been dead five days when she reached us, and our attempt at a post-mortem examination was therefore wholly abortive. All we can say is, that she looked like a very old queen, and we shall be glad if any of our correspondents can offer a probable solution of a mystery which our own experience fails to explain.]

THE USES OF CARBOLIC ACID.

As a preliminary to an intended relation of my experience of the complaint called "dropsy" during the spring and summer, I shall describe a simple method of rescuing from their assailants weak hives that are being plundered. It is as follows:

—Early in the morning, or as soon as corsair bees are on the raid, dip a feather in carbolic acid and wet the entrance of the assailed hive all round, pouring at the same time a few drops on the landing. Repeat the dose during the day as the odour passes off. If properly managed, the inmates will remain at home ventilating, whilst not a single robber dare cross the threshold. It is even desirable that some of the robber bees should wet their feet in the acid, that on returning to their own hives they may spread consternation at home. On two occasions the process has been tried with great success, rendering altogether unnecessary the removal of the weak and plundered hives to a distance. If robbers are in possession of the hive, lift it up and pour a little of the acid on the middle of the floorboard, and then replace the hive. The robbers will speedily decamp.

I do not know of a more useful auxiliary in the apiary than carbolic acid. It is cheap, costing only 6*d* a-phial, and it is one of the best disinfectants. As ingeniously used by "Apicola" on a piece of sponge inserted in a fumigator, and blown through with the breath or a pair of bellows, it answers nearly all the purposes of smoke. True, that gentleman, when I visited his apiary in June, had some very ferocious hives, that are only amenable to tobacco smoke. Not expecting to see such tigers, I approached them without my usual accompaniment of a pipe or cigar. The consequence was, that with a panoply vulnerable at several points, I was chased over the lawn, and compelled to hide myself in the shrubbery. No Egyptians could be more ferocious. If "Apicola," however, when inspecting them will just let fall a drop or two of carbolic acid on the floorboard and on the upper interior edges of the box, I have no doubt they will quietly succumb to manipulation. Bees have been unusually ferocious this season, no doubt owing to the scarcity of food.

In this locality (Dumfries-shire) we have had a good honey harvest, but collections could not be made after the 26th of July, and up to this date, August 27th, there has been no return from the heather. It is said to be later in flowering than usual, but I suspect it is partly blasted, and that the flowers cannot open in consequence of the dry weather. "Apicola" has only obtained in supers from, I believe, eighteen stocks, 592 lbs.—R. S.

OUR LETTER BOX.

Killing Old Hens (*Brahma*).—If you mean to eat your hens or chickens either roasted or boiled, we are bound to tell you they are too old for such purposes. Your friends will paraphrase Boileau at your expense, and say of your poultry—

"Ma poulette étique, sur la table étalé,
Que du nom de "chicken" se trouve décorée.'

There are other modes of dressing the antiquities of the yard. They are capital in that most neglected but most useful article the "stock-pot." We have many times given the receipt for making old cocks and hens into pies that would tempt an epicure, and at no cost beyond trouble and painstaking. Keep them as long as they will lay, and then kill them. Let them be empty of food and let the weather be cool, that you may be able to keep them with a view to their becoming tender. Some pullets will lay in December or January; some may lay earlier.

Grain for Poultry (*A. L.*).—You may fairly believe that the best food for all poultry is that which is best in quality. No error is so great as to fall into the popular idea that any rubbish will do for that which is conventionally termed "chickens' meat." All refuse is saved in order to form part of it. Now grain is only valuable according to its weight, and those who have had to feed Ducks by hand soon learn an easy method of ascertaining that point. Food is given to Ducks in water. Take heavy oats or barley, and put them in water; they will all sink to the bottom. Take light cheap corn, and it will nearly all float on the top of the water. The necessary weight of food for feeding fowls profitably will be bought for less money laid out in the best and heaviest grain, than in that which is called cheaper because it costs less. Neglect of this truth causes many to be discouraged and to relinquish a pursuit which has been a source of pleasure to them. We feed our poultry on the best barley, the best small Indian corn, and barley or oatmeal. Our mode of feeding is to give meal slaked with water the first thing in the morning, a few handfuls of corn (barley) about ten, a regular meal of barley or Indian corn at one, and slaked meal again in the evening half an hour before dusk. Your food is right for Pigeons, but the Indian corn should be small.

Roup—Rice as Food for Chickens (*J. G.*).—Wash the head daily, or twice daily, with tepid water. Sulphate of copper, one grain daily, mixed in oatmeal mashed with ale, and plenty of green food. Separate the fowl from all others. If not better within a week kill the fowl. Rice is worse than nothing for poultry. It forms no other bone, muscle, nor flesh, and it always causes vermin. The best and cheapest food is that we have described above. You will not be troubled with laying, if you feed on rice. Chicks do not interfere with laying hens. In January four, February six, March eight, and so on increasing till in summer any moderate number; but this assumes proper and nourishing food.

Ducks when Moulting (*A Subscriber*).—The Rouen drake you saw with the brown feathers was merely in deep moult. The males of all the Duck tribe, even the handsomest, are Ducks in feather for a short time before they renew their bright colours.

Turkey Hen Disconsolate (*J. M.*).—It would have assisted us in answering if you had told us whether there was any reason to believe there was a stoppage, and that the crop was distended with food because it found no escape. If you ascertain satisfactorily there is no stoppage, and that the food in the crop is only that recently given, all you have to do will be to empty the crop, and then to feed very sparingly and frequently, allowing neither food nor water, except when given by hand. The crop will empty itself if the bird be held up by the legs with the head hanging down. When the crop is empty a table-spoonful of castor oil may be given. If the evacuations are green and slimy there will be no recovery till they are changed to brown-white and figured. Discontinue the stimulants at present. When you take to them again, give strong beer. Nettle tops should be boiled, onion tops given raw.

Breeding and Management of Geese (*J. T. L.*).—To give all the information you ask would require a long article, but the following extract from the "Poultry-keepers' Manual" is an answer to most of your questions:—"For breeding, not more than three Geese to one gander must be kept, and their breeding powers continue undiminished until more than twenty years old. They require a wide range, affording plenty of grass, and still water. The Goose house for the four should not be less than 8 feet long by 6 feet wide, and high enough for a man to stand in upright. A smooth floor of brick and good ventilation are necessary. Over the floor a little clean straw should be spread every second day, after removing that previously used, and washing down the floor. A compartment about 2½ feet square should be assigned to each Goose for laying and sitting, and when one is hatching, the gander and other Geese must be shut out from her. Wherever a Goose lays her first egg she is very pertinacious in there depositing the remainder. The Toulouse Goose is a very good layer, but rarely requires to sit, and, if she does, is a very bad mother. Where laying Geese are kept together, and they are liable to interrupt each other, remove the eggs daily, and mark on each the day it was laid. They will continue good for three weeks; but the freshest eggs should be set upon. If the Geese keep well to their separate nests, let the eggs remain. March and early in April is the best period for goslings to be hatched in. In February, or early in March, therefore, the Geese should commence sitting; for the period of incubation is from thirty to thirty-five days. Goslings hatched after April and at any time in summer, are reared with great difficulty. Thirteen eggs are quite enough for the largest Goose to sit upon. Food and water should be placed close to her, for she sits very closely. It is best for her to come from her nest daily, and take a bath in some neighbouring pond. The moisture of her breast feathers evidently is favourable to the eggs hatching, so that when they are placed under a common hen, or other domestic fowl, these eggs should be sprinkled with water every second day. When hatching has commenced, do not in any way interfere, for more harm results than benefit; both Goose and goslings are strong enough to take care of themselves. On the second day after hatching put a turf before the goslings; and a little boiled oatmeal, boiled rice, bread crumbs, and pond water are their best supplies for the first week. Put the water into a shallow dish, with means for them to get in and out easily. When a fortnight old they can shift for themselves, if allowed to go abroad with their mother, and not until then must they be allowed to frequent the pond. They require extra feeding, however, and this may be the same as given to other fowls. The only dangers they require to be sheltered from are heavy rains and a damp floor. During five days of the first fortnight the Goose may be put under a crate or large coop on grass. When put up for fattening, from six to ten thrive better than if only two or three are confined for the purpose. For the first fortnight give them oats and water mixed together, and afterwards barleymeal made of a crumbling consistency with water. They should be in a dark house, and kept quite quiet. They should be allowed to bathe in a pond for a few hours before being killed. They are then plucked more easily, and the feathers are more serviceable." Correspondents should be reasonable in their requests, especially when they send their questions at the last moment.

Names of Doves (*H. E. Kelsey*).—It is not easy to decide accurately upon the names of birds unseen and only described by words, as people differ as to their views and names of colours. We rather expect that the cock bird is a Stock Dove (Columba Œnas). The one described as the hen is, we fancy, a Turtle Dove (Columba Turtur). We have recently seen both birds in an aviary, and in perfect health. The Turtle Dove being a bird of passage, will show much uneasiness, and a desire to escape as autumn advances.

What are Rosewinds? (*Inquirer*).—If your question refers to a bird, we are not aware of any called by that name. There is an Australian Parrot or Parakeet called the Bloodwing. Rosewing may probably be only a local appellation.

Dandepratt (*Query*).—In Yorkshire the Bantam is so called; but we think it is a fond name for other small things.

Food for a Flycatcher (*Buz*).—It will eat any kind of soft food, such as boiled rice, boiled potato, a little hard-boiled egg chopped fine, with bruised hempseed and soaked bread added, scraped meat, small mealworms, or garden worms, and insects of any description. We do not think that there is much chance of your being able to keep the bird through the winter on account of its migratory habits.

Keeping Honey (*Amateur*).—If your cellar be perfectly dry, there can be no better place.

POULTRY MARKET.—September 1.

The hot weather has made quotations difficult. Senders were wearied with spoiling, and discontinued a small supply; an increase in price was the result.

	s. d	s. d
Large Fowls	3 6	to 4 6
Smaller do	3 0	3 6
Chickens	2 0	2 3
Goslings	0 0	0 0
Ducks	2 0	3 3
Young Grouse	2 0	2 6
Old Grouse	1 0	to 1 6
Geese	6 0	6 6
Pigeons	0 8	0 9
Hares	0 0	0 0
Rabbits	1 4	1 5
Wild do	0 8	0 9

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 9—15, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
9	Th	Royal Caledonian Horticul. Society's Show	69.1	48.3	58.7	19	26 af 5	27 af 6	27 af 9	23 af 8	3	2 51	252
10	F	Welchpool Horticultural Show. [closes.	69.6	45.8	57.7	21	27 5	25 6	48 10	53 8	4	3 11	253
11	S		68.5	44.4	56.5	12	29 5	23 6	after.	26 9	5	3 32	254
12	Sun	16 Sunday after Trinity.	69.0	44.7	56.9	16	31 5	20 6	17 1	5 10	6	3 53	255
13	M		68.2	45.7	56.9	19	32 5	18 6	21 2	49 10	☽	4 14	256
14	Tu		67.0	46.0	56.5	22	34 5	16 6	16 3	41 11	8	4 35	257
15	W		67.6	46.1	56.8	21	35 5	14 6	3 4	morn.	9	4 56	258

From observations taken near London during the last forty-two years, the average day temperature of the week is 68.4°; and its night temperatnre 45.9°. The greatest heat was 88°, on the 13th, 1865; and the lowest cold 28°, on the 11th and 12th, 1860. The greatest fall of rain was 1.27 inch.

THE GLADIOLUS.—No. 1.

FONTAINEBLEAU.

EVER since my first acquaintance with the Gladiolus, an acquaintance now of many years' standing, it has been my desire to see them in their fulness of beauty at the place whence they had come forth year after year to win their way to favour and acceptance. Some years ago I was enabled to make the acquaintance of Monsieur Souchet, the raiser of these flowers, known not only as an enthusiastic and persevering florist, but as one of the most genial and hospitable men that France (or England, indeed), contains. No one has ever been to Fontainebleau to visit the Gladiolus, who has not felt that in M. Souchet and his admirable wife he has met kind and attentive friends, and have, like myself, regretted that the state of M. Souchet's health prohibits our having the gratification of returning the hospitality he so freely renders. I had not, although seeing and knowing the raiser, ever seen the flowers in bloom; my visits to Paris depended not on my own arrangements, but on the plans of others, and it was generally either in May or June that they were paid, and hence I never saw the Gladiolus in bloom. I had seen them growing, had pictured to myself what a wondrous sight it must be when these long beds were in their full blaze of beauty; when acre after acre was resplendent in their varied hues. Well, at last my wish has been gratified. I had not the usual business to take me there this year, and so determined to make a short visit. Mentioning my intention to the Editors of "our Journal," I was commissioned by them to undertake another work, about which I hope to have somewhat to say by-and-by, and at last have had the pleasure I so long anticipated. Like all our pleasures here, it has had somewhat of alloy in it, and I sometimes, as I think over it, almost wish I had not been there, not that I was disappointed, far from that, but I saw *too much*. How, I will presently explain.

With that consideration which my good friend always shows to everybody with whom he has to do, M. Souchet fixed the day of my visit, for what he called his "*jour de baptême*," the christening and arranging in order of merit the flowers which are to be sent out this autumn; and he, therefore, had about three hundred blooms cut and arranged in his house ready for inspection. These included the seedlings for selection and some of the flowers of this season for the sake of comparison, also some of those which are coming on, but are not yet multiplied. And here it is that I saw too much; not only were there flowers which are about to be sent out, but others in advance even of these. Now, when I look on my own flowers, beautiful though they may be, there float before my eyes visions not only of those I shall soon see, and perhaps possess; but then I think to myself, What are these in tint in comparison with those yet to come? I look at Virgile or Monsieur Legouvé, but then I think of one I saw and measured—5¾ inches by 5—and how poor in comparison, though really beautiful, are those flowers; and as one grower or another shows me some seedling he thinks highly of—pretty rough it may be—can I refrain from saying, "Ah! my friend, by the time you have a stock of this the flowers you think so much of will be among the things of the past." Yes, I give up *in toto* the idea of raising seedlings. One must be behindhand in the race. Who ever neared even Hoyle and Foster in the Pelargonium race? who ever could rush past my friend Mr. Banks in Fuchsias? No, the thing is hopeless; at least this was the impression made by my visit to Fontainebleau.

If anyone can act conscientiously in the matter of sending out his productions, M. Souchet must surely do so. He grows and selects those which he considers worthy of being sent forth into the world, but he does not arrange their order of merit. M. Ramey, from Vilmorin, Andrieux, & Co., M. Charles Verdier and M. Maillot criticise and examine, and by their report he is guided. He has three or four series, regulated by quality, which again regulates their price; these gentlemen determine which place the several seedlings shall occupy; and hence it sometimes happens that flowers of real merit may be put in a lower series, and yet be ultimately equal to their more favoured brethren. I would instance Moliere last year, which was placed in the second series, but which, I think, most of us prefer to Semiramis, beautiful though it was when I saw it at Fontainebleau; the day I was there, the last act of criticism was made by M. Ramey, and the names affixed to them. Of these I shall have something to say by-and-by.

The increase of the town of Fontainebleau and other reasons have rendered a change in M. Souchet's plans necessary; he has not so much ground at Fontainebleau as he used to have, and grows there only the newer kinds and the seedlings, especially those under trial; the great bulk of the older kinds with which he supplies the Parisian fairs are grown at Montereau, about three leagues off, where the soil is favourable, and the *ver blanc* [the larva of the cockchafer], less destructive than it is in the immediate neighbourhood of the forest. There can be little doubt that one great cause of M. Souchet's success is the fallowing of his land, which takes place two years out of every three; weeds, of course, are not allowed to grow, and hence the bulbs have the advantage of a fresh soil; but even with all his skill and experience he cannot banish the "chlorosis," which so often attacks the plants. He does not attempt to cure it, the moment a plant is attacked, "arrache" is the word; the spike may be in bloom, but he says the bulb is dead. It might sound presumptuous to question such an authority, but I am inclined to do so. Of course where they are grown by the acre, and where it is absolutely necessary that only sound bulbs should be sent out, such a procedure may be necessary, but it is manifest that we who grow a few cannot afford to do this, and I have evidence from my own garden that such bulbs are recoverable. When I was at Deal in the autumn of 1867, a number of my bulbs were badly affected, so much that I did not think it worth while to harvest them; I therefore at once planted them round one of my borders. When I left Deal in the spring of last year these were left behind, and only the other day, when revisiting my old place of

sojourn, I saw these bulbs with vigorous shoots and spikes of bloom.

The plan adopted by M. Souchet with the young bulblets or spawn is to place them, when taken off, in dry sand, and leave them thus until the spring. The sand is then gradually moistened until the outer coat begins to soften, and they are then planted or sown in rows, almost like Onions in drills. Where the time and space can be given to them, it is better to place them in pots first, and then to plant them out afterwards. But in truth, in the matter of cultivation, I do not think that we are much behindhand, and am inclined to fancy that, taking the same varieties, Mr. Kelway could exhibit as good a stand as M. Souchet. One thing I remarked, that a larger number of blooms were on the truss, generally speaking, than with us, but this, I think, is to be attributed in part to the warmer climate; for I notice even here that in sunny weather one gets longer spikes in bloom than when the weather is cloudy and cold.

I shall have more to say of the Gladiolus at home next week.—D., *Deal.*

STOCKS FOR FRUIT TREES—THE PORTUGAL AND ANGERS QUINCES.

It is really an act of kindness in Mr. J. Scott (see page 165) to give one an opportunity of going into—"ventilating"—this trifling subject, and it is much to be regretted that he has for so many years laboured under a mistake as to these kinds of Quinces, for it seems almost probable that he has neither one nor the other true to name, by which he must have been a great loser; still, it may be only his climate that has changed the nature of the Angers Quince. It was about the year 1831, that on reading Mr. R. Thompson's remarks on the Portugal Quince in the "Catalogue" of the Horticultural Society, and especially his recommendation of it as a stock fit for the Pear, that I was induced to procure some grafts of the sort from the garden at Chiswick. This variety proved larger than the common Quince, and a free grower; but, as I soon learnt from a Lisbon friend, it was not the true sort. This I soon procured from some source, and have now for many years grown it as the only kind of Quince worthy of cultivation for its fruit. It is not unfavourable as a stock for the Pear, but, at least here, it does not form so good a stock as the Angers Quince, nor can it ever be used to any great extent, for it does not strike freely from cuttings, but must be propagated by budding or layering. This quality tells against its use, for a hundred thousand Angers Quince stocks could be raised in the period required to raise one thousand Portugal Quinces.

With respect to the Angers Quince not being hardy with Mr. Scott, it may be operated upon by the warm nursing nature of the Somersetshire climate making it almost an evergreen; here, in our cold, dry air, it is as hardy as the Oak, and never suffers from frost or wet. In France it is employed as a stock for the Pear to a very large extent.

As Mr. Scott may not know its history, it will, I hope, be grateful to him if I narrate it. Some time between 1830 and 1835 I visited Angers, and in the Route de Paris, near the town, I observed a large nursery, called "Le Grand Jardin." Soon after my arrival I made my way to it, and was much gratified at its extent and with its venerable proprietor, uncle to the present M. André Leroy; he was a grand old gentleman, full of intelligence. Among the subjects we discussed was that of Quince stocks, as I wished to learn which he considered the best. I forget now what passed, but it ended in his sending me three or four sorts of Quinces, one of which was the Cognassier d'Angers, or Angers Quince. In a short time I found this variety more succulent than the Quince stocks I had received from Paris, swelling with the graft, and making the healthiest trees. From that period to the present I have never deviated from this opinion, and from the single tree sent to me by M. Leroy I have propagated hundreds of thousands, which have been widely dispersed in America and elsewhere. With skill it can be propagated by cuttings, but these require careful cultivation. One hundred thousand per annum are grown here. There is another variety of Quince, approaching the Angers in vigour, with leaves more glossy, but its tissues harder; this is the Doué Quince. After propagating it for some years, it has given way to the Angers, which is to a certainty the best of all.

The leaves of the four sorts of Quinces measure as follows:—The Portugal Quince, 3 to 3¼ inches in width; the Angers and Doué Quinces, 2 inches; the Paris Quince, 1¼. The Portugal Quince is remarkable for the thick coat of light fawn-coloured down on the under surface of its leaves. It is the most free-bearing of all, and if planted against a south wall, gives superb fruit. Pears budded on it do well enough, but not better than those budded on the Angers Quince. The last batch budded on this stock, some fifteen years since, did not make such vigorous, healthy trees as those budded alongside of them on the Angers Quince.

The Nain vert (Dwarf Green) Pear, mentioned in page 166, was raised from seed in France, and fruited for the first time about 1840. It is a great curiosity, for like the Dwarf Elm, Ulmus montana nana, it seldom or never makes shoots more than from 2 to 3 inches long in one season, even when grafted on a vigorous-growing Pear stock, like the Dwarf Elm when grafted on Ulmus montana. As with it, when double grafted, it does not dwarf the graft to any extent, but something like the Blenheim Pippin when double grafted on the Hawthornden Apple grafted on the Crab, it has some effect in moderating the habit of a vigorous-growing variety. It would seem that the tissue of these dwarf trees is changed when used as intermediate stocks. By a vigorous graft the cells are possibly ruptured by the suction of the graft, for if a common kind of Peach is budded on the Dwarf Orleans Peach, which rarely grows more than 3 inches in one season, the stock does not dwarf the sort budded on it, as do the surface-rooting Paradise and Quince stocks the Apple and the Pear, for both the dwarf Peach and dwarf Pear root deeply in the soil.

If seedlings are raised from the Nain vert Pear they adhere to a great extent to the habit of the parent; but, I repeat, owing to their rooting deeply, it is not probable they will form dwarfing stocks. To think of raising seedlings of Nain vert Pears, to graft with Pears for a commercial object, is a "*château en Espagne.*" My tree of Nain vert is some ten or twelve years old, is about 3 feet in height, is full of fair-sized green fruit, not bad, but not good.

To diverge from Quinces and Pears to the Apple, I may, perhaps, be allowed to mention that last spring I planted a border of a rather stiff, clayey soil with fifteen kinds of Paradise stocks, including the Doucin; for the most part a row of stocks and a row of Apple trees, grafted on the stock under observation. Four of these are Dutch stocks, imported last spring. One among them is the Creeping Paradise, mentioned by Miller. They are all of inferior quality, and the latter in particular is a pestilent thing, as it throws out suckers from its roots. Two kinds of English Paradise stocks, one from Mr. Waterer, of Knap Hill, and one from Mr. Pearson, seem nearly identical, and as good as stocks can be. Three are varieties of the French Paradise (Pommier de Paradis)—one from Doué on the Loire, which seems healthy, one from the neighbourhood of Paris, which, as has always been the case here, whether planted in light or stiff soils, has failed, all the stocks being leafless and cankered; still, I should note that some of the same batch of stocks, potted in light mould, have done well, the pots standing on the surface, but moulded up with cocoa fibre. These little trees, grafted in pots, make pretty bushes, but they are not more fertile than those grafted on the Nonesuch Paradise, for I have to-day seen a tree grafted on this stock, only 9 inches high, with three full-sized Apples on it, and hundreds of trees, from 12 to 15 inches in height, smothered with fruit. What more can we want? My third variety of Pommier de Paradis is one received from Mr. Scott. It has more vigour than the other two, and is the best of the three sorts. Last spring, when the stock mania was rife, I sent Mr. Scott some fine young Apple trees, grafted on my two kinds of Paradise stock, the Broad-leaved and the Nonesuch, begging his acceptance of them, and requesting him to send me in return two or three trees grafted on his kind of stock. I regret that, owing as I suppose to his being deeply immersed in business, he neither acknowledged my civil note, nor sent me the trees, and so I procured some through a friend, who ordered them and sent them to me.

With respect to the sale of Pears for double grafting in France, this is a comparatively modern practice. A member of the firm which sells them, worked here some years ago to learn our language and our ways. The trees offered are of all kinds, such as have not been sent out for orders. I bought some once, and *only once*—in truth, they are not worth carriage. Budding the Apricot on seedling Apricots requires skill and care. It is now many years since I saw a wall covered with Moorpark Apricot trees of my own budding; they were budded on seedling Apricots. Their aspect to me was very interesting, for instead of the strong plethoric habit of the same sort budded on the Plum stock, which the owner of the garden

told me disgusted him, by large branches dying almost every season, these trees had no gouty protuberances, but had slender healthy shoots. The owner of the gardens dying, and the place being far from home, I did not again see the trees. I only know that the Apricot stock is most difficult to manage.

My wish to make your readers acquainted with the nature of different kinds of Quince stocks, has led me into a stock discussion more lengthy than I intended. The subject is, however, full of interest, and many things are yet to be discovered relative to stocks. I can only say that my life has been, and still is, a life of experiment, and although I am aged, and sometimes inclined to think that another threescore-and-ten years should be added to my life to finish my tasks, the pleasure of experimental horticulture never flags, for, assisted as I am by a well-tried staff of employés, I can carry on my fancies with less fatigue than ever.—Thomas Rivers.

NOTES ON ROSES.

Most questions, including, of course, those arising from horticultural matters, have two sides, a *pro* and *contra*, and "D., *Deal's*," query why amateurs do not give their experience of Roses is by no means an exception. To write commonplace facts which every Rose-amateur knows, even if tolerated by the reader, must be an infliction on the Editors, and they have enough in that way. There is also a sort of egotism in putting into print what is going on in one's own garden when the information accorded is little else than trite truisms. These are some of the difficulties that beset a reply to "D., *Deal's*," invitation in his late article, "Among the Roses," yet I for one hope that it will meet with ample response. A rosarian can always find something to say about his favourites. He is always glad to read, if not to write, about them. He is pleased to meet with jottings of them, or even any one of them, whether they come from the antipodes, Loch Ness, Canada, or the North Pole. Roses at the North Pole! Why not? Ancient readers of "our Journal," as "Wiltshire Rector" has it, will remember very long ago that there appeared an article on "Gardening at the North Pole;" and where there is a garden, logically or illogically it follows there must be Roses.

In one of the papers read at the Manchester meeting, the writer stated his opinion that the strain of Remontants (the Hybrid Perpetuals) had "got into a rut." This is precisely the case. The seedlings are reproductions of the parents without any distinguishable improvement, and the selection is made with little discrimination in a floral point of view. One becomes tired of proving the worthlessness of the great majority of new Roses announced every season to tempt the unwary and disappoint the rosarian. We must therefore fall back upon our tried friends; they are yet numerous, most beautiful, and afford unfailing pleasure season after season to the careful cultivator. But even with them no true rosarian will be content to "rest and be thankful;" the process of selection may be carried much further. It is quite a probability that greater perfection is attainable both in the flowers and habits of kinds which are still far behind our standard of real or ideal excellence. Take, for example, light-coloured varieties, as Caroline de Sansal, Mdlle. Bonnaire, or even La Baronne de Rothschild; these are the best of the light kinds, but not one is equal to Charles Lefebvre or Senateur Vaisse in comparative merit. Take, again, dark varieties. Prince Camille de Rohan is still the best, but no one would compare it with the above-named two. Take, for a third instance, purple kinds, or kinds in which purple should predominate. There is yet scarcely one worth cultivating, and we keep Souvenir de Dr. Jamain, Gloire de Ducher, and one or two more only for the sake of their colour. If these desiderata can be supplied by selection only, there is still much to be done; but selection alone will not bring us out of that "rut" that we have been trundling along in lately. Were the French growers to take the full advantage of their better climate and turn their attention to crossing, they might be well assured that any important result would meet with its reward. The Remontants were obtained by artificial means, there is no evidence that these means are exhausted; there is, then, every reason to believe that new races, with new forms and new colours, may be brought into existence.

Till these things come to pass we may, therefore, be allowed to gossip about the Roses we have. The soil of this garden is of the lightest description, as it has been frequently stated in these columns. The situation is rather high, being about 425 feet above the sea level. The wind is troublesome at times, but there is a great advantage to balance it, which is the comparative freedom from or the harmlessness of spring frosts. Nearly all the Coniferæ thrive admirably, and many species are in vigorous growth that are scarcely ever met with except in similar situations. My Roses are on the Manetti stock, which I have adopted for several years. The Briar was a failure, and except for Gloire de Dijon, Céline Forestier, Maréchal Niel, Charles Lawson, Blairii No. 2, Coupe d'Hébé, and a few of the most vigorous Remontants, I have almost discontinued it. I adopt Mr. Radclyffe's dictum of giving my plants "plenty to eat and drink." Let our less experienced Rose friends pay attention to these few simple facts: Give the plants plenty to eat and drink; neither stint nor overdo it. Watch carefully for that safe medium that, when they are doing well, keep them so. Note the habit of growth of each variety, and regulate pruning accordingly, neither timidly leaving what ought to be cut away, nor barbarously mutilating healthy stems that yield good flowers. Cut off the dead flower-heads, especially after the first bloom is past, to one, two, or more joints, according to the strength of the shoot producing them; this will do much to insure succession of bloom. Pinch off in autumn the ends of long shoots that show no sign of bloom in the current season to develop buds lower down. Prune shorter in spring. Cut out as soon as discovered, and at any time of the year, all shoots that show signs of unsoundness, disease, or decay—they never recover. These are some of the more prominent points to be attended to in the cultivation of Manetti-stocked Roses. By carrying them out a succession of bloom, greater or less, may be obtained from May to December.

I intend to forward shortly a few notes on some of the Roses that I have in cultivation here.—Adolphus H. Kent.

It is always a pleasure to take a stroll with "the Dean," "among the Roses," even though it be in these pages, and not over the wonderful Hertfordshire soil; and as he invites the experiences of other amateur growers, it may be well that some of us should respond to the call.

This, on the whole, has been a cruel Rose year with us in the centre of Ireland. I walked in the end of June through the garden of a friend, distinguished for his Roses (he has, probably, somewhere about one thousand plants, or more), on the eve of a local show, and I doubt whether there were six blossoms in the entire garden which would have satisfied us any other season. I may say the same of most other gardens at the same time of year, though things improved very much after that. I myself am unfortunately circumstanced. My garden is about the most evil-minded one I ever came across. Before it came into my hands its life had been torn out of it by repeated doses of Potatoes without one atom of fresh material, except manure, ever compassionating its misery. It is too much confined by neighbouring hedges, and mildew and orange fungus run riot in it, and require incessant watching. Added to this, I am on the top of a cold, high plateau land. Any Rose that does well with me, will probably do well anywhere. I shall notice some of the Roses mentioned by "D., *Deal*," with any others I have, which seem to me to call for remark.

Paul Verdier bloomed splendidly; the blossoms were nearly 5 inches across, and opened freely. I am in despair at hearing "D." pronounce it not to be an autumnal bloomer. Mine, certainly, shows no signs of a second bloom. Charles Verdier, a lovely colour, would not open in July, though I gave it the copious drenchings of water ordered by Mr. Radclyffe. It is now giving a second series of blossom, opening quite freely, but is deficient in size. I have to state precisely the same of Sœur des Anges, Sombreuil, and Mdlle. Julie Daran. Joséphine Beauharnais has grown miserably, and has never opened at all; likewise Ville de St. Denis, Mrs. John Berners, Exposition de Brie, and King's Acre, except that the last-named is tolerably vigorous in growth. Mdlle. Annie Wood, though showing a centre, I confess, generally is, I think, a lovely Rose, and a most useful one; very vigorous, very free in blooming and opening, and a most enchanting colour when first expanded, very like a light Senateur Vaisse. Fisher Holmes is dull and ragged; Antoine Ducher very good indeed, though rather common in colour, small; Thorin, lovely in colour, something like Alfred Colomb, very large, and with me full; Monsieur Noman, very pretty in colour, sufficiently vigorous, but the blossoms spoil with me in the most provoking way. I never had a single blossom that did not look as if it had been taken out of a basket of wet moss. Black Prince, I think, is a very poor affair, very dull in colour, and not nearly double enough. It seems a

healthy grower. Jean Lambert is just the contrary, a beautiful blossom on a wretched grower. I have had it two years, and it never grows an inch.

Abel Grand is of a most beautiful colour, fine size, healthy habit, but no sign of autumnal bloom. Marie Baumann, very like Thorin, has dropped the leaves, and looks rather like a sick turkey. Princess Mary of Cambridge is a very abundant bloomer both in July and now, but the individual blossoms have not, I think, much to recommend them. Professor Koch did very badly with me last year against a wall, and I removed it to an open border, and cut it down very closely. I have been much pleased with it. It has been full and highly coloured, and is about to give a fine second bloom. Camille Bernardin has been most curiously different from what it was last year, when it bloomed miserably in summer and superbly in autumn; this year superbly in summer; but now it does not seem inclined to stir at all, though remarkably well fed. Marguerite de St. Amand is good in every way, I should say about the best Rose of its colour.

I cannot induce Cécile de Chabrillant, Madame Rivers, or Madame Vidot to succeed even moderately well. By Mr. Radclyffe's advice I moved them to a wall last autumn, but they are coy beauties, and I woo them in vain. Why is not Mdlle. Bonnaire more spoken of? It is exquisitely beautiful, and in places not subject to mildew, its enemy here, would, I think, be about the best blush white Rose we have. Maréchal Niel was covered with buds in spring. These were all nipped, with the exception of six, which opened well. It is now again covered with buds, and has one fine blossom expanded. At this time of year it seems to overcome the scragginess which distinguishes it in the earlier part of the season. From Climbing Devoniensis I cannot obtain a flower. It is on a south wall, and made shoots last year 10 feet long, which I expected to give blooming spurs this year; but no, nothing but mere sappy shoots and barren spurs. Triomphe de Rennes soils something like Monsieur Noman. Madame Fillion I think may go; small, ill-formed, and hard to open. Madame Margottin against a wall, and well treated, thrives badly; the blossoms fall off before opening, and the whole plant looks scraggy. Charles Rouillard has blossomed very abundantly and opened very freely, but I do not care for it; the lilac pink colour is poor, and the plant is terribly given to mildew.

But one forgets how fast the sheets multiply when on the subject of Roses. There are many Rose-growers in Ireland who could give us valuable information—for example, Mr. Nicholson and Mr. Coddington, of Oldbridge, whose Roses are simply superb; but they hail from a very different soil and climate from mine. As far as my experience goes there has been a want this season both in size and colour.—Q. Q.

I have been a grower for nine years, and have about three hundred varieties and six hundred plants, partly on the Briar, but chiefly on the Manetti. This is the sixth consecutive season in which I have had to contend with a long drought; this season has been the most severe trial of all, as we have had no rain to enter the ground since the end of the first week in May. The cold of that month and till the middle of June, showed its effects in black spot, stripping some varieties of their leaves. Géant des Batailles and its progeny I found most affected. After some very hot dry weather in the first week in July orange rust and mildew came on, and have continued their ravages more or less ever since. In spite of all, with mulching and thorough watering, I have had a fine show of bloom, though smaller than last year. My soil is the Devon red, where not manured and worked frequently, cracking very much. This season, after waiting three years, I have had some splendid blooms of Hippolyte Flandrin on its own roots, measuring 5 inches in diameter, beautifully imbricated, of a lovely rose colour, and superior in shape to Marguerite Dombrain, which has also bloomed well with me this season. Neither of them stood drought well. Charles Verdier and Antoine Ducher have both been good. Napoléon III. has proved a grand, brilliant flower, and continuous-blooming. The earlier blooms of Exposition de Brie were very fine in form and colour, the under side of the petals a fine bronzed purple. Sophie Coquerelle, a large light Rose, opens well, two or three blooms expanding freely at one time on a truss, and it has resisted mildew, &c., though close to Annie Wood most severely attacked. Acidalie has been very beautiful, throwing up shoots from 4 to 5 feet high, crowned with a boss of seven or eight perfectly-cupped, pure white flowers, slightly splashed with pink. Xavier Olibo has been very fine and strong in growth on the Manetti stock, and with me is decidedly the best dark Rose. Charles Wood is very strong, blooming finely at the terminals of new shoots from the root. It is kept constantly watered, is on the Manetti, and in very light stony soil. My blooms of Maréchal Niel against an east wall, where it bloomed well last year, were nearly all destroyed by the late frosts in June. It, as well as one on the Manetti, are now, particularly the latter, covered with buds, some nearly expanded. The latter was budded in 1867, and made a shoot 9 feet long last year, and is trained as a pillar Rose.

Buds of all Roses have succeeded well this year, I have only lost two out of 250. Narcisse expanded a fine bloom with eight buds just forty-two days after budding; several others are in bud. Devienne Lamy has opened this day (September 1st) from a bud of June 10th; a fine-formed rich crimson, somewhat like Senateur Vaisse, and it will be a very free bloomer.—Ide.

THE EARLY ROSE POTATO.

Having seen the account of the Early Rose Potatoes given by "A Subscriber," I also wish to say that I purchased 1 lb. of the above. "Subscriber" states he cut his into sixty-five pieces, and the produce was 44 lbs.; I cut mine into thirty-two sets, having one eye to each, all of which grew. I planted them, March 25th, about 4 inches deep, in a light soil, and when the tops were 6 or 8 inches high I moulded them. I dug up the crop on August 24th, and weighed them, having 48 lbs. produce from the 1 lb. Fifteen of the tubers average ¼ lb. each. It is a smooth, well-formed Potato, and not deep-eyed. When cooked, it is as good as I could wish.—A Worcestershire Subscriber.

I cut 2 lbs. into sixty-four sets, and planted them in ground of very moderate quality in the last week of April. Three sets did not grow, and five came up yellow and died off, so that I only had fifty-six good plants. All went on well until May 29th, when frost cut some to the ground, and some were only blackened. However, notwithstanding these mishaps, I took up 40 lbs. in the last week of July. There were about a dozen plants which the frost did not injure, and one-third of the produce was from these. Had the season been more favourable and the ground been in better heart, the produce would have much larger. I believe that it is a fine Potato.—R. Nash, *Seedsman, &c., Threchouscholds.*

I think "A Subscriber" has been very unfortunate with the Early American Rose Potato. I purchased 1 lb., consisting of two Potatoes; I cut these into forty-two sets, which I planted on the 25th of March at 2 feet apart each way; thirty-nine sets came up. I lifted the Potatoes on the 28th of August, and there were 105 lbs. 12 ozs. of Potatoes.—Arthur Wilkin, *Bootle.*

PLANTS LOSING THEIR VARIEGATION.

This season some of my plants of Polemonium cæruleum variegatum have reverted to the green state, not having a vestige of variegation. They were all propagated from the same stock. As the plant is so beautiful when in good condition, and so useful for bedding, it will be a matter of regret if this continue. Perhaps the season is the cause. Early in summer my plants of Dactylis glomerata variegata and Poa trivialis variegata were likewise quite green, and I was half inclined to discard them, but I cut them in closely, and as the new growth showed signs of variegation, I left them, and now they are all that can be desired. They have withstood the late hot dry weather well (we had on the morning of August 31st a white frost). Of the Aucuba-leaved Daisy many of the plants have lost all traces of their golden variegation, and some of them have died; they do best in a moist shady situation. Bambusa Fortunei does not answer well with us as a bedding plant, and is very undecided in its colour, sometimes being all white, sometimes green. Sedum sieboideum variegatum has in a great measure turned green, but if it would retain the variegated character it would be very desirable as a dwarf edging plant. Many plants of Arabis albida variegata have also become quite green, marring the effect intended to be produced. Hydrangea japonica variegata has likewise lost much of its variegation, and Philadelphus coronarius variegatus has in some instances become nearly green.

Other variegated plants have also shown a disposition to

become green-leaved, but what surprises me most is Pelargonium Bijou, some plants of which appear determined to become Tom Thumbs over again. I knew a gentleman who used to say he did not like those sickly-looking plants called variegated —the variegation was only the result of disease. I think them very useful and effective when they are what they ought to be. Mrs. Pollock Pelargonium has likewise changed from its usual character, and some of the plants would not be recognised as Mrs. Pollock. It would almost appear that variegated plants are a degenerating race, and when they assume an appearance different from that which they are expected to present, they destroy the effect they are intended to produce. The only remedy I can suggest is to discard those which do not exhibit a fixed character, and to select for propagation those in which the variegation is best defined.—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

THE INTERNATIONAL HORTICULTURAL EXHIBITION AT HAMBURG.

Hamburg, or Hamburgh as we are accustomed to call it in England, the very ancient, prosperous, free city, and general seaport for the whole of northern Germany, is just now holding high holiday with one of the most varied and extensive horticultural exhibitions that has yet been seen. This great Show, which was opened on Thursday last with all due formality, will continue until Saturday next.

As an exhibition of horticulture it is in many senses a great one. Far finer examples of cultivation we are accustomed to see in this country in almost every particular, but as a general exhibition of horticulture, embracing as it does almost every article connected with gardening—as a beautiful and a pleasing sight, for which no expense has been spared, it is certainly deserving of our highest praise, and unhesitatingly we say it is one of the greatest exhibitions that has come under our notice.

The promoters of this great Exhibition have had a most herculean task before them. The time they must have sacrificed, the trouble they have undergone, the great fatigue, and the immense expense involved, are little thought of now that it is all crowned by a triumphant success. We must congratulate them on the happy result. No little of the credit is due to the untiring exertions of its esteemed President, Syndic Dr. Merck, and its zealous Secretaries, Dr. Götze and Dr. Donenberg. The most unbounded praise is also due to the able designer of the beautiful grounds, Herr Jürgens, the architect, Dr. Halle, and M. Kramer.

The Jury, which numbered nearly two hundred, consisted of some of the leading horticulturists from all countries. It was presided over by the Burgomeister of Hamburg; this country being represented by the Rev. M. J. Berkeley, from the Government, Messrs. Harry J. Veitch, Thomas Osborn, Fulham, and A. F. Barron, Chiswick. The judging of the numerous classes occupied the greater part of three days. At the termination of their labours, the Jury, Committee, Town Councillors, &c., were entertained at a magnificent banquet. The beautiful Zoological Gardens were also thrown open to the Jurors, and a grand concert and illumination took place on Saturday evening. Horticultural Congress Meetings are also held every day, when discussions are held, and trips by steamboat to Blankenose, the beautiful suburb of Hamburg, on the Elbe. Everthing is conducted on a magnificent scale.

To give any adequate idea of the beauty of the situation, or of the labour that has been bestowed upon it to render it as it now appears, is quite impossible. It is on the north bank of the Elbe. Six months ago, or even less, it was an uncultivated valley, with steep rough banks on either side, and a dirty, weedy, piece of water at the bottom—a portion of the old moat which surrounded the city; now, under the hands of Herr Jürgens, the able landscape gardener, it has assumed a most fairy-like aspect. The ground is of a rather irregular oblong shape, one end of the valley opening on the river, and might measure over 20 acres, the other end is on the main street joining Altona and Hamburg. The situation and grounds are naturally beautiful, and the very excellent manner in which they have been laid out for the display of the different subjects render the grounds themselves quite an exhibition. The whole place has been remodelled, the piece of water much improved and enlarged. It lacks, however, gracefulness of form, and the steep banks on each side nicely moulded down are covered with a fine herbage, which is very remarkable considering that it was only sown about six weeks ago. It looks to the eye as if it had been so for years. The walks are judiciously planned, and the various groups of trees, shrubs, and flowers very well placed. To this are added some fancy bridges, islands, temples, pieces of rockwork, &c., here and there, and at the river end a graceful suspension bridge, 50 feet high, connecting the one side with the other. A pretty whole is produced.

On the level sides at the top on each side of this valley, are arranged in beds and groups in the open ground, such plants as Coniferæ, of which there are large exhibitions, Roses, Pelargoniums, Fuchsias, &c., and all such as are suited for the open air, and by this means the grounds are richly embellished with some of the choicest ornaments of the show. On each side are erected commodious, although not particularly handsome skeleton houses, covered with canvas, for the accommodation of all such plants, fruits, &c., as require it. On one side there is a large plant house, in which are exposed Palms, stove and fine-foliaged plants, and another large circular building for cut flowers and plants of smaller size. There is a great degree of roughness and darkness throughout these buildings, commodious and well adapted for their intended purposes as they may otherwise be. On the opposite side is, first, a large building devoted to vegetables, and another to what forms one of the most interesting portions of the entire exhibition, and in which the Germans seem far to excel us—viz., the exhibition of bouquets of dried flowers, for which every flower almost is used, most magnificent bouquet-holders, preserved fruits, wines, samples of seeds, &c.

Connected with this first piece of ground, quite enough for any ordinary show, is yet another portion of some acres. Access is had by a substantial wooden bridge across the street. Here are displayed the various pieces of machinery, garden implements, tree-transplanters, &c., and at the farther end about three-quarters of an acre devoted to the exhibition of specimens of the different modes of training fruit trees, a very important feature, and samples of general nursery stock. This portion is well displayed, and extremely interesting. The leaves having been all stripped from the trees, thus exhibiting but a lot of naked stems, give the place rather a wintry aspect.

Here, also, are two very long tents for the fruit-exhibitors. Apples and Pears occupy the greater space, an immense variety being exhibited. Grapes, however, are the grand feature, and these—the best examples, at least—come from our own country, and are shown by our champion growers, Thomson and Meredith, to the latter of whom the Queen's cup was awarded. Pine Apples are very good. It is impossible, however, to overlook the fact of the wretched and miserable appearance which the fruit in these tents, taken as a whole, presents; so much decayed and imperfect fruit has rarely been gathered together to greet the eyes at the opening of any exhibition.

Having now taken a rapid survey of the chief features of this great Show, we would, before proceeding to details, say a few words on the administration. Nothing, we are sure, could exceed the good intentions of its promoters and managers. We ourselves have had personal experience of this, and can truly say, that individually we have found them ever ready to assist us. It is with extreme reluctance, therefore, that we make the following remarks. In all great undertakings of this kind, in which so many interests are involved, a certain set of rules for guidance and management are established, which it is expected are to be equally binding on all parties, managers and exhibitors. Here, however, although the rules have been laid down clearly enough, we have been sorry to observe that in many cases they have been totally disregarded. A painful sense of shiftiness and vacillation is abundantly manifest. To be particular, all plants for exhibition in the open ground, implements, and machinery, had to be here not later than the 24th of August. Exhibitors from a distance complied with this rule, whilst some of those in the immediate neighbourhood were introducing their subjects up to the very day of opening.

Another serious ground of complaint is the cavalier way in which all exhibitors who have put themselves to very considerable expense have been treated. It is customary to grant passes of admission to exhibitors in accordance with their articles, and to a show which lasts twelve days like this it is abundantly necessary that exhibitors should be admitted. Not so at Hamburg, however. Every exhibitor, no matter what his contribution, or however much it may have added to the interest of the exhibition, has to pay for his admission, and that, too, at a high figure—about 18s. A strong protest signed by most of the exhibitors native and foreign was sent in to the Committee of Management against this rule: with no result, however. Representatives of the press, excepting those of

Hamburg, were allowed no privilege whatever. We cannot but think this extremely short-sighted policy of the Committee, which in the case of another exhibition being attempted will tell heavily against them. We are sure that English exhibitors, who are accustomed to such privileges, will know how to appreciate such treatment.

We now come to speak of a still more disagreeable subject, that in relation to the gold cup given by Her Majesty the Queen for Grapes. The exact definition of the words "For the best specimen Grapes" first communicated to England was somewhat difficult, so that the English committee applied to Hamburg, and received the information the cup was to be awarded "for the three best specimen Grapes," that signifying the best three bunches. In the German catalogue of the Exhibition it is, however, worded, "For the three best specimen Grapes in three varieties." On the simple understanding that it was offered for the best three bunches, Mr. Meredith entered and staged his fruit; and on the understanding that it was for the three bunches in three varieties Mr. Thomson entered and staged his. There was yet, however, another interpretation understood by Herr Wesselhoeft, of Altona, who staged his fruit as an assortment. To the intense astonishment of all the English exhibitors, it was then announced that a telegram had been received from Her Majesty that the cup was to be given "for the best assortment of Grapes," thus putting the English exhibitors at a complete nonplus. By chance, Mr. Meredith, having brought a collection of Grapes, was enabled to compete either for specimens or as an assortment, and thus he has the good fortune to bring back with him to England Her Majesty's cup. We cannot, however, too severely comment on the way in which this result has been brought about. The cup was distinctly offered for the best specimens of Grapes, and on this ground alone it should have been awarded. No alteration can by any fairness be allowed to take place, however exalted the donor may be. It is all very well to consult the wishes of Her Majesty as to its disposal. It was too late, however, to do so after the fruit was staged. We do not believe that if the matter had been properly represented to Her Majesty, that such an unjust proceeding would have been permitted. That the ultimate issue might not have been otherwise does not signify. A great injustice was perpetrated, especially to Mr. Thomson, whose exhibition was the only one strictly in accordance with the schedule, and his three bunches were, without doubt, the finest examples of cultivation. They had, however, the misfortune to be somewhat damaged in transit; Mr. Meredith's, on the contrary, arrived in splendid condition.

Beginning, now, with the plants in the large and principal building already alluded to, one end of which is principally filled with Palms and Ferns from temperate parts, and the other with natives of warmer climes, at the farther end we find the very splendid lot of new plants exhibited by Messrs. Veitch & Sons. These, although not entered for competition, form decidedly the finest group of plants in the whole Exhibition, and attract an immense amount of attention. They are so far superior to anything else here, that we believe, although they have not been entered, it is in contemplation to award them the gold medal for new plants. In the group are eight splendid plants of Nepenthes, that of Rafflesiana very large and fine; Hookeri; and the new hybrid between these two, one of the very finest, the pitchers very large; six of the new Dracænas, which are models of fine cultivation; the new Crotons; Japanese Amaranthus; hybrid Cypripediums; the new Dieffenbachia Bowmanni, a splendid kind; Lapageria alba, &c. Messrs. Linden, who compete, have here the next finest group, more numerous than Messrs. Veitch's, but not nearly so select. There are, however, some very fine plants, such as Palms, &c.; Dieffenbachia princeps, nobilis; Tillandsia Lindeni, a fine plant; the curious Cochlioslema Jacobianum; Fourcroya Lindeni, a fine plant, greatly resembling in appearance the variegated American Aloe; Cissus Lindeni, &c.

Of Orchids Messrs. Linden are the only contributors who stage a group of about twenty plants, amongst which we find fine plants of Acrides quinquevulnerum, Angulon Clowesii, Cattleya maxima, a large plant of the strange Trichotosia ferox, Odontoglossum Alexandræ Trianæi, the splendid Cattleya Eldorado, &c. The 500 thaler prize for the best group of fifty plants, one half of which must be in flower, has been awarded to M. Kramer, the very skilful gardener to Senator Jenich, Flottbeck, Holstein. The great mass of the plants in this group are of the most ordinary description. There are, however, a few splendid plants of Disa grandiflora, which tell well; they have from seven to eight stems from each pot, and each stem bearing from three to seven large and beautiful flowers. The cultivation of this fine cool terrestrial Orchid seems here to be perfectly understood.

A very beautiful collection of Anæctochils are exhibited also by M. Kramer, to which the first prize has been awarded. The specimens are small. The selection is, however, excellent.

Herr Wendland, Royal Gardens, Herrenhausen, carries off the first honours amongst Palms, of which tribe there is an immense variety exhibited. In Mr. Wendland's lot, the specimens of which are very large and fine, are the beautiful Geonomas Martiana, sarapigiensis, and Wildenovii; and Chamærops humilis bilaminata. Messrs. Linden, Brussels, have also some fine plants—Phœnicophorium Verschaffeltii, Areca Verschaffeltii and alba, Verschaffeltia splendida, &c. Fine plants of Cycas revoluta are contributed by Herr A. F. Reichers, Hamburg, which receive the first prize. This is a plant held in very high estimation in Germany. M. Jean Verschaffelt further exhibits some splendid Palms and a noble specimen of that beautiful tree Fern, Balantium antarcticum, with a stem about 10 feet in height.

We now pass to building No. 2, a very large oval structure, the interior being arranged with a sort of concentric circles and stages cone-fashion. Here are exhibited large groups of what are called market plants in lots of fifties or so, such as Azaleas, Camellias, Primulas, Heaths, and very fine Dracænas. The most of these are just ordinary stuff, such as may be seen in any nursery by the thousand.

Cut flowers of all descriptions and in immense variety are exhibited by Messrs. Ernst & Von Spreckelsen, seedsmen, Hamburg. These are staged so nicely, and so many of them together, that they really look well. Their double Zinnias, Asters, and Everlastings are very fine indeed. If we could only get such from their seeds, we should be satisfied.

Asters form a great feature of the Exhibition, an immense variety being exhibited from all the German seed-growers, F. Haage, Haage and Schmidt, Benary, Mohring of Arnstadt, &c. By far the finest lot, however, came from Dippe Brothers, seed-growers, Quedlenburg; these are really splendid.

Of Hollyhocks thirty-six varieties are shown by Messrs. Downie, Laird, & Laing, Stanstead Park, Forest Hill, and very fine they are, as also are their Pansies. A very pretty lot of Fancy Pansies, curious-looking things, come from Herr H. Wrede, Lunebnrg. These German Fancy Pansies take our taste more than the English strain; they are some of them so very singular in appearance. Cut Roses are well shown by Friedrich Harms, nurseryman, Hamburg. Dahlias and Gladiolus are here also shown, but none of particular merit.

An extremely interesting and extensive variety of Oaks, Elms, &c., small plants in pots, are exhibited from Moscow.

Tricolor Pelargoniums are exhibited by Messrs. Carter & Co., and Messrs. F. & A. Smith, Dulwich, whose plants are extremely fine and much admired. Bronze varieties come from Messrs. Carter and Messrs. Downie, Laird, & Laing, and a glass case of leaves of the same from Messrs. E. G. Henderson & Sons. Some of these leaves are so very vividly coloured that the visitors do not believe them to be genuine. Coleuses are abundantly displayed in variety. They do not look well, however, in this dark tent. The best come from Messrs. Carter & Co. One large plant grafted with twenty-eight varieties attracts a good deal of attention.

Passing now to the open ground, where the most of the plants suitable for the open air are exhibited, we find them placed here and there in groups or singly, according to their character. The placing and arrangement of all these plants must have been a task of considerable difficulty. We are bound to admit that it has been ably executed, and a most beautiful effect produced. It is a very excellent method of exhibiting such plants as Conifers, Roses in summer, Oranges, &c. They tell to greater advantage when placed thus in a natural position.

Conifers are largely shown, and form a grand feature in the grounds They are principally contributed by Messrs. Peter Smith & Co., nurserymen, Hamburg; Jurgens, Nienstadten; and Barron & Sons, Borrowash, Derby. The first prize for the group of 100 distinct varieties has been awarded to Messrs. Peter Smith & Co. There are some good varieties in this lot, but a great number are very coarse and inferior, and we question very much if there are 100 varieties. There were at least two Thuja Warreana which came under our own notice. M. Van Geert, Belgium, exhibits a very pretty lot of 100 smallish plants, which were awarded the third prize. In the class for twenty-five Abies and Picea the first prize was deservedly awarded to Messrs. Barron & Sons for a very choice collection, the plants about 3 feet in height, all pretty specimens. Messrs. Barron are again first for six distinct Retinosporas—viz., R. obtusa, obtusa nana aurea, plumosa aurea, plumosa alba variegata, pisifera, and lycopodioides. Second prize, M. J. Verschaffelt. The first-prize Wellingtonia, a plant about 10 feet high, from Borkoop, Holland, is a very wretched object, one-sided, and almost dead. Herr Jurgens carries off the honours for the specimen Abies lasiocarpa. Messrs. Barron's plant having lost its leader thus lost the prize. The first-prize group of Cupressus Lawsoniana comes from Borkoop, Holland, and is a very good lot indeed. In this class there is strong competition. Cedrus Deodara is well shewn, the first prize going to Jurriessen & Sons. Messrs. Barron's plant, although smaller, is in every respect a finer specimen, the leading shoot of the prize plant being very poor. Some fine Thuja Lobbi, Warreana, &c., are exhibited. Messrs. Peter Smith & Co. obtain the first prize for Abies Nordmanniana with a beautiful plant about 5 or 6 feet high. We cannot, however, say so much for the prize plant of Abies nobilis shown by Messrs. Peter Smith & Co. It is a small plant quite out of health, without a leader, but bearing some four or five cones, which we suppose must in the opinion of the Jurors have been a wonderful phenomenon. Messrs. Barron's plant opposed to this is twice the size and in most excellent health. Judgments of this

sort are perfectly ridiculous. The first-prize Araucaria imbricata from M. Jean Verschaffelt is a very beautiful specimen, from 10 to 12 feet in height. Little need be said of the other kinds of Araucaria—excelsa, Cunninghamii, Cookii, &c., except that they are very ordinary plants. Messrs. Barron carry off the first honours for Thujopsis dolabrata with very fine plants. No notice, however, seems to have been taken of the new varieties of Abies Douglasii exhibited by Messrs. Barron, which have received numerous first-class certificates in England. In Conifers the competition was more spirited than in any other section. We cannot, however, say much for the justice of the awards in many instances, or the judgment of the Judges. Favouritism seems to have been strongly present.

A very fine group of fifty varieties of Hollies are contributed by Messrs. Krelage & Sons, Haarlem, Holland. Standard Roses are largely shown, and in good condition in numerous groups by Herr Harms, nurseryman, Hamburg. A great quantity of standard Bay trees, and Oranges and Pomegranates in tubs are also shown, which look well arranged in lines along the walks. There is, however, nothing very remarkable amongst them. The Orange trees are as a rule rather inferior. Some pretty groups of standard Fuchsias are also shown by Herr Harms; the plants about 5 feet in height, with good heads of flowers in fine condition. The splendid way in which these were cultivated, although we hate standards, pleased us much. Ornamental trees and shrubs are contributed principally by Herr Jürgens, of Nienstadten, and amongst them are some fine specimens. They do not show, however, to much advantage.

Prizes were also offered for the finest groups of ornamental-foliaged plants. The prize lot, which is shown by A. F. Brockenberg, Hamburg, consists chiefly of Cannas, Ricinus, Dracænas, Wigandias, &c., the plants themselves are good enough, the arrangement, however—the effect produced—is not good. The same may be said of the competition for the best arranged flower beds. The designs are elaborate enough, yet there is no harmony, too much variety, and little taste. A few simple articles well used would have produced a better effect than anything here shown. We must just except some scroll leafwork in front of the plant house traced out and shaded off with coloured gravel and glass, and little dots of Sempervivum californicum and Echeveria secunda. That is extremely pretty and chaste. Some pretty patches of grottoes and rockwork are also displayed, which, however, it is altogether impossible to describe.

FRUIT.

The gold cup given by Her Majesty the Queen returns to England to grace the already bountifully bedecked tables of Mr. Meredith. Mr. Meredith exhibits for this honour several lots—1st, three very large, but rather ugly, bunches of Mrs. Pince's Black Muscat. They appear scarcely ripe, and are not fully coloured. 2ndly, three bunches of Frankenthal, which are magnificent. In his collection, besides these, are good examples of Black Hamburgh, Lady Downe's, Black Prince, Muscat Hamburgh, Trentham Black, Muscat of Alexandria, and Buckland Sweetwater, all very excellent examples of good cultivation. Mr. Thomson, of Dalkeith, competes with a stand of three remarkable bunches—Muscat of Alexandria, 5¾ lbs.; Chasselas Napoléon, 4 lbs., one of the best models of bunches we have ever seen; Black Hamburgh, 3½ lbs., scarcely up in colour. These, however, had the misfortune to be somewhat damaged (we believe after their arrival), which told against them. Judging them as three specimen bunches they are decidedly in advance of those of Mr. Meredith. This exhibition was awarded a gold medal. Herr Wesselhoeft, of Flottbeck, Holstein, exhibits a pretty stand, having the bunches suspended thereon. His specimens of Alicante, Black Hamburgh, Trebbiano, Raisin de Calabre, Muscat of Alexandria, &c., although very good, and displaying considerable merit, can in no way compare with the English competitors. They were awarded a cup given by the Duke of Mecklenburg, but upon what grounds it would be difficult to tell.

Mr. Thomson exhibits a small bunch of the new Golden Champion, which very deservedly was awarded a gold medal as a new variety. It is amusing to observe with what astonishment these English Grapes are viewed by the visitors to the Show, mixed as it is with a considerable amount of jealousy.

For the three best Black Grapes, Mr. Meredith, who competed, was disqualified on account of having been awarded the cup, and the first prize, therefore, went to Herr Heimendinger, a fruiterer in Hamburg. In the class, however, for the best White Grapes, Mr. Meredith has been awarded the first prize, although his exhibitions here are open to exactly the same objection as in the former.

From the gardens of the Duke of Angustenburg, Flottbeck, Holstein, come a good assortment of Grapes; the bunches are small, and many of them only half-ripe. A very pretty little lot of the small black wine Grapes, Château Lafitte, Château Larose, Château Gascours, &c., are also shown, but we cannot learn the exhibitor's name. From the Horticultural Society of Lower Tyrol, Austria, come upwards of seventy varieties of Grapes. These are under number, however, so that no names can be ascertained. There are some large bunches amongst them. Messrs. Demouilles, horticulteurs, Toulouse, France, exhibit a vast variety of fruits; eighty-four of Grapes, quite ripe, neatly packed in little boxes for export, as we see them in the shop windows. The various varieties of Chasselas have the prettiest and sweetest look. St. Antoine, a round black sort, looks well, as also Aramon, a sort much cultivated in the South of France. Diamant Traube, Marocain Noir, Muscat Romain, &c., all look very tempting. There are, besides these, a great number of other exhibitions of Grape, which, however, have no particular merit.

Pine Apples are well shown. The fruits, although none of them of enormous size, are all above the medium, beautifully swelled, and juicy. The varieties are chiefly Ripley Queen and Prickly Cayenne. The fruits, however, are of a much thicker and broader character than ours, not nearly so tapering. The prize lots of three cut fruit came from H. Fichtner, Breslau, and Oswald Hubner, of Breslau; the best fruit in pots from C. Delpeich, Luebau, Schleswig.

Peaches do not form a very interesting feature. M. Lepère fils, the great Peach-cultivator of Montreuil, however, sends some fair fruit—twenty-four varieties of Peaches, and six of Nectarines, the best amongst which are Reine des Vergers, Gain de Montreuil, Tardive Lepère, Grosse Mignonne, and Belle Beauce. A few good fruits of Stanwick Nectarine are also amongst them. This variety is named Standish's Nectarine. It seems to be nearly always wrongly named. The Peach crop on the Continent seems just to have been as great a failure as in this country.

Melons are largely shown, and amongst them some very splendid fruit. The first-prize lot of six came from Messrs. F. W. Frisenette & Sons, Nurserymen, Copenhagen, amongst which we find our own favourites, Beechwood and Bromham Hall. Herr Heimendinger, fruiterer, obtains a medal for a collection of North American and other Water Melons, which are to be found very frequently exposed for sale in the shop windows.

Fruit trees in pots are contributed largely and well. Apples, especially, are so well grown, the trees so healthy, the fruit so large and fine. Some examples of Calville Blanche are exceedingly large and beautiful, with a fine bright flush on their cheeks, that would make the mouth of a Rivers water to see them. The worthy President himself, Syndic Dr. Merck, shows his skill here. M. Wesselhoeft has also a fine lot. Senator Geddeffrey, of Holstein, and W. Schwab and Sons, nurserymen, Darmstadt, shew so well here, that it is difficult to say which is best. The Apple trees are for the most part small, not more than 2 feet in height, in 10-inch pots, and are bearing on an average from eight to twelve very fine fruit. The Pear trees are larger, and bearing some two dozen fruits each. The beauty of these trees is this—that every fruit is a marked specimen, and never do we recollect having seen them finer.

Messrs. Croux et Fils, horticulteurs, Avenay, Liz-Sceaux, Seine, France, exhibit an enormous collection of fruits of all sorts. Apples amount to 150 varieties, and amongst them are some most magnificent examples. The best was Ribston Pippin; Alexander; Wormsley Pippin, Ménagère, a fine large sort; Reinette du Canada, Calville Blanche, with a pretty rosy cheek; Lord Suffield, altered here, however, to Lady Suffield, Gooseberry, Pepin d'Or, like our Sturmer; Prince of Wales, a variety entirely new to us; Calville Impériale, a pretty, large, smooth, white sort; Cox's Pomona Sainte Barbe seemed to be our Mère de Ménage; and Beauty of Kent was named Herefordshire Pearmain. The collection of Pears consisted of 320 sorts, amongst which were some exceedingly beautiful specimens. We noted especially Beurré de Montgeron, a very beautiful, highly-coloured sort; Beurré Spence, which is evidently our Flemish Beauty—a Pear about which there always has been a lot of confusion, Thompson's, Glou Morçeau, Beurré Clairgeau, Beurré Bachelier, Duchesse d'Angoulême, Beurré Hardy, Louise Bonne, Senateur Reveil, a new and fine-looking sort; Madame Treyve, De Tongres, Doyenné du Comice, &c. M.M. Croux further exhibit fifty varieties of Grapes, thirty of Plums, Peaches, &c., amongst which, however, there is nothing at all worthy of notice.

Messrs. Jamain et Durand, nurserymen, Bourg-la-Reine, France, also stage an enormous variety of Apples, Pears, Plums, &c. The Apples and Pears are many of them exceedingly fine. Of the former, we may mention Reinette grise, Pomme Suisse, Calville Blanche, very large; Franketer Romaine, a very large, green, kitchen variety; Rivière, a handsome Pearmain-shaped fruit; Calville des Femmes, a very large green sort; Belle Dubois, our Gloria Mundi, &c. Of Pears, we noticed Draconon, a large sort in the way of Easter Beurré, Beurré Hardy, Louise Bonne of Jersey, Beurré Sterckmans, General Todtleben, a fine-looking Pear, and Joséphine de Malines. Knight's Monarch, Urbaniste, and Thompson's were here wrongly named.

Another very large collection of Apples and Pears came from Messrs. Martin Müller, nurserymen, of Strasbourg, France. Many of these consisted of our English varieties, the names of which were in very numerous instances misplaced and entirely wrong.

General Consul Ed. Ladé, Villa Manressas, Hesse, Prussia, exhibited a very fine collection of Apples and Pears, Grapes, Nuts, &c. Amongst the Apples we noted the following very fine—viz., Barchard's Reinette, Lelieur, a large pale sort; Hansmütterchen, a very handsome variety, in shape like Emperor Alexander, but quite distinct; Charlamowsky, pretty; Langton's Landergleichen, a very pretty medium-sized fruit. Amongst the Pears were good examples of Williams' Bon Chrétien, Doyénué Jamin, Doyenné du Comice, &c., and a dish of Bigarreau Mauresses Cherries, a very small hard sort of but little merit.

From the Horticultural Society, Bazen, Lower Tyrol, Austria, come a very magnificent assortment of Apples and Pears, which being under number however, and not named, could not be noticed. A good many fruits of the Maclura aurantiaca, or Osage Orange, are also in this lot.

Messrs. Demonilles, horticulteurs, Toulouse, exhibit seventy-eight varieties of Apples, amongst which were splendid specimens of Reinette

de Granville, Reinette de Caux, Reinette de Cassel, a large green sort; 180 sorts of Pears, amongst which the best are Williams's Bon Chrétien, very large and fine; Bon Chrétien de Vernois, a large, finely coloured, good-looking sort; Dureonot, like Gleu Morçeau, &c.; twenty-nine sorts of Figs, which, however, are very poor and scrubby, the only presentable sort being Neapolitan, a dark-skinned, oblate-shaped, medium-sized fruit; twelve varieties of Plums, and of this fruit it may be said that there is not a single good dish shown.

Very large collections of fruit, principally Apples and Pears, are also exhibited by the following gentlemen and scores of others:—Jacob Kern, Neussdorf, Landau; and L. V. Aichinger, Innsbruck, Tyrol, in whose collection are the following beautiful Apples—Bohmen, medium size, fine clear skin, scarlet flesh; Gramat; Maschanzger, pretty; Gestreifte Reinette. From the gardens of the King of Wurtemberg comes a collection in which are a prettily shaped form of Reinette du Canada Apple, and Rother Streipfen, resembling our Hoary Morning. Garten Inspector Wredo, Lüneburg, Hanover, has in his collection some of the most beautifully coloured Apples we have ever seen, especially one named Rosenappel bohmischer, of flattish form, angular, with a deep hollow eye and a clear transparent skin, nearly entirely covered with the most brilliant scarlet, as intense as in the flowers of a scarlet Pelargonium. Crameisenapfel is also very beautiful, and Marien Baumanns rother Winter, and Reinette Gostreifte Somer. M. Kramer, of Flottbeck, also stages a good collection, and many others, but their collections call for no particular notice; a very great portion of the remainder, indeed, being very much decayed and presenting a most unseemly appearance. It is utterly impossible to tell how the prizes have been awarded in many of these classes, or whether the fruits are really for competition or not. The whole system of judging and arranging from beginning to end is so utterly different from our English systems that we confess our inability to understand it, or at all events to appreciate it. We manage these things better at home.

Our remarks on the trained fruit trees, machinery, implements, vegetables, bouquets, flower decorations, and other miscellaneous matters, will be given next week.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 7TH.

FRUIT COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Lane & Son, of Berkhampstead, sent a collection of six varieties of Nuts and Filberts, including Red and White Filbert, Cosford, Late Cob, Purple, and Frizzled. Mr. Lockie, gardener to F. W. Berger, Esq., Court Gardens, Great Marlow, sent a valuable collection of nineteen varieties of Apples, Pears, and Plums, grown on pot trees in an orchard house. They were in every case remarkably fine specimens. The Gansel's Bergamot, Fondante d'Automne, and Williams's Bon Chrétien, were quite ripe and delicious in flavour. The Coe's Golden Drop Plum, Transparent Gage, Magnum Bonum, and Pond's Seedling, were remarkably fine specimens. The collection, altogether, was so meritorious that the Committee awarded a special certificate.

Messrs. Rivers, of Sawbridgeworth, sent a collection of six dishes of Grapes, consisting of the Early Auvergne, Primavis, Eugenien, Early Saumur, Tokay, and Early Golden. A special certificate was awarded for the collection. Mr. William Paul, of Waltham Cross, sent an interesting collection of fourteen distinct sorts of early and mid-season Apples, to which a special certificate was awarded.

Mr. Richbell, gardener, Tadworth Court, Epsom, sent fruit of the Honeycomb Melon. It was a good, large, green-fleshed variety, but too far gone, and the flavour was inferior. Mr. P. Frost, gardener to G. M. Fortescue, Esq., Dropmore, sent a seedling Melon, which was also passed. Mr. Beach, of Kingswood Warren, Epsom, sent a fruit of Beach's Green-flesh, and this was of excellent quality, and in good condition. Mr. Beach also sent a Scarlet-fleshed variety, which was quite unripe. Mr. Lockie, of Court Gardens, Marlow, sent a seedling Melon raised between Golden Queen and Bailey's Green-flesh, which was inferior in flavour. Mr. Dancer, of Little Sutton, sent fruit of Warner's King, and Cox's Pomona, two fine large early Apples worthy of general cultivation.

Sir Watkin Williams Wynn, Bart., of Wynnstay, sent a very fine dish of the Winter Greening Apple, the crop of 1868. They were in fine condition. G. F. Wilson, Esq., of Gishurst Cottage, Weybridge Heath, sent a very fine dish of Louise Bonne of Jersey, grown on pot trees turned out in the open ground, the flavour of which was most excellent. Mr. Cadger, of Luton Hoo gardens, sent a seedling Melon, which was too far gone, and had begun to ferment.

There were numerous dishes of Potatoes, which were ordered to be cooked before any opinion was formed of them, and the report to be made at Chiswick this day.

FLORAL COMMITTEE.—Mr. Robinson, Wartington, sent cut specimens of a scarlet zonal Pelargonium, which could not be noticed without the plant; Mr. Tillery, gardener to the Duke of Portland, four seedling Gladioli quite out of condition. Mr. Backhouse, York, sent a very fine specimen of Odontoglossum Alexandræ. The plant had two fine spikes of flowers. A special certificate was awarded it. Mr. Dobson, gardener to F. W. Scott, Esq., sent a box of cut flowers of a seedling Pansy of great promise if the habit of the plant should prove to be like V. cornuta. The flower is much larger and of a deeper tint of colour. It must be seen growing to give any idea of its merits.

Mr. Eckford, gardener to the Earl of Radnor, sent a seedling hybrid Ivy-leaf Pelargonium, Lady Edith, of robust habit; the foliage marked with a well-defined zone; colour of the flowers purplish rose, with very fair-sized trnss. This is a movement in a right direction; these Ivy-leaved hybrids will be found most useful for decorative purposes. A first-class certificate was awarded. Mr. Eckford also sent a large collection of seedling Verbenas; one of them, Countess of Radnor, received a first-class certificate—pale lilac ground with darker-shaded centre, a very distinct and pretty flower. The other seedlings were many of them good, but not distinct from many others. Cut specimens of the hardy and ornamental Clerodendron fœtidum were also brought from the same gardens.

Mr. Williams, Holloway, was awarded a special certificate for a collection of Orchids, also a special certificate for a fine plant of Eucharis amazonica. Messrs. Downie, Laird, & Laing sent seedling hybrid Nosegay Pelargoniums, Lady Kirkland and Sunshine. From Messrs. E. G. Henderson came Caladium Prince of Wales and Princess of Wales, with white-veined foliage, marked with broader rosy bands, and two fine specimens of Rochea falcata, an old but very beautiful plant. Mr. Cooper, Reigate, exhibited a collection of new Euphorbias, which were awarded a special certificate; also a collection of named kinds, of great interest from their curious and varied forms.

Mr. Parsons, gardener to W. Blake, Esq., Danesbury Park, received first-class certificates for two very singular forms of Lastrea—Lastrea Filix-mas ramisissima, and a diminutive parsley-like form—L. Filix-mas parvula. Two more opposite forms of this Fern could not be well imagined. It is a question worth considering, whether these deformities really merit the high awards they so often meet with. Mr. Parsons also brought a very pretty Gloxinia, called Sylph, white ground with pale lavender spots. Mr. Frost, Dropmore, sent cut specimens of Passiflora cincinnata.

G. E. Blenkins, Esq., brought a well-grown specimen of Vallota purpurea; this plant was exhibited to show how easily it might be cultivated in a greenhouse in London, and without any particular care. The original bulb had been six years in the same pot without being shifted, and produced from its offsets five spikes of beautiful flowers. How this plant obtained the name of purpurea seems doubtful; there is nothing purple about it. Can any of our horticultural friends throw light on this subject? Although a very old favourite, few flowers ever excited more attention than this specimen; many were the inquiries made after the meeting as to its name, culture, &c.

Mr. Barker, Littlehampton, Sussex, sent a box of cut Petunia flowers of considerable merit; a special certificate was awarded them. Mr. Thornicroft, Floore, near Weedon, sent Caladium Schottii. Messrs. Lee, Hammersmith, sent seedling Rose Clemence Raoux, pale salmon, tipped with deep rose, a very highly-scented variety. It received a first-class certificate. A variety of Adiantum capillus-Veneris, from the same firm, also had a first-class certificate.

Mr. Green, gardener to W. W. Saunders, Esq., received a special certificate for a very curious group of plants, Orchids and others. One Orchid of a very singular form and of great beauty was recommended for notice as a botanical curiosity. It was thought worthy of the bronze medal—a distinction or mark of honour lately suggested by the Council to be conferred on certain new, distinct, and rare plants of botanical interest. The name of this curiosity was Restrepia antennifera. G. F. Wilson, Esq., brought cut specimens of Lilium speciosum, many of them highly coloured, varying in shade of colour, and proving themselves to be varieties of Lilium speciosum. W. Marshall, Esq., sent cut specimens of a variety of Cattleya Mossiæ, also two of Lælia elegans Marsballii and Lælia elegans variety.

Mr. Bull exhibited a small plant of the beautiful Lasiandra macrantha; a special certificate was awarded. We hope next year to see a well-grown specimen of this superb flowering plant.

Mr. Turner, Slough, received a first-class certificate for seedling Dahlias Toisson d'Or and Harvard, and a special certificate for a very fine collection of cut named flowers. Mr. Rawlings received a first-class certificate for Dahlia Aristides; Mr. Parker, Wingfield, a first-class certificate for Dahlia Queen of the Yellows; and Mr. Burgess, Chelsea, a first-class certificate for Dahlia William Lund.

A special certificate was awarded for a collection of Orchids from the Society's gardens, among them a new and uninteresting form of Cypripedium Reichenbachii. Mr. J. Cooper exhibited a specimen of Ipomæa Chambersii with variegated foliage.

Mr. Looker exhibited specimens of his patent earthenware propagating-boxes. These will be found useful by lady amateurs who have no convenience for striking cuttings, and may be placed in a sunny window, and will be equally available for raising seeds; they are very portable and not unsightly. A photograph of a Lilium auratum was received from Mr. Smith, gardener to James Bland, Esq., Quarry Bank, Atherton. This bulb produced 193 flowers on a single stem. The bulb was planted in 1865, thus showing how much the bulbs improve as they become older and established.

GENERAL MEETING.—W. Wilson Saunders, Esq., F.R.S., in the chair. After the election of one new Fellow, the Rev. Joshua Dix, in reporting the awards of the Floral Committee, directed attention to Looker's propagating-boxes, which the Committee had highly approved of, especially for the use of amateurs in striking cuttings and raising seeds. The Committee had suggested it would be an improvement to make the boxes without bottoms instead of as at present. A pot-cleaner from Mr. Green, of Garforth, was considered to require a greater

expenditure of labour than the present system. Some coloured drawings of plants and leaves from Mr. Macfarlane, of Upper Holloway, were noticed as being praiseworthy, and a photograph of a remarkably fine plant of Lilium auratum was pointed out. This plant, it was stated, had produced 193 flowers between August 4th and September 6th, as many as sixty-five being expanded at one time. The Chairman of the Fruit Committee, Mr. Wilson, mentioned as a fact, the knowledge of which might be useful now that persons are staining their fingers in picking Mulberries, that the juice of the berries in the red stage takes away the purple stain of the ripe ones.

Mr. Wilson Saunders remarked, in connection with Ivy-leaved Pelargonium Lady Edith, shown by Mr. Eckford, that it was very desirable to unite large bright-coloured flowers to the succulent glossy leaf and pendulous habit of the Ivy-leaved kinds; and he had no doubt, if the attempt were made, new and important varieties would be obtained. The fine specimen of Eucharis amazonica, from Mr. Williams, next claimed attention, and Mr. Saunders said there was no better plant than it for a moist hothouse, for if properly treated it is always in flower. A pot of Vallota purpurea, grown by G. E. Blenkins, Esq., in a London greenhouse, was next referred to as a successful instance of culture, and Mr. Saunders asked Mr. Blenkins what was the mode of culture pursued.

Mr. Blenkins said the bulbs, originally very small, were kept three years without the soil being changed; they had been once changed, three years ago, and had been six years in the same pot. The soil used consisted of one-third peat and two-thirds loam, with a little silver sand. His sole object in exhibiting the pot was to induce people to grow this bulb, and to show with how little trouble it could be done.

Mr. Saunders remarked that plants of the Vallota and other Amaryllids are very impatient of their roots being meddled with. The Rose Clemence Raoux was then noticed as having a most delicious perfume—a property in a Rose which florists of late years had too much neglected. For his own part, he did not see why the sense of smell should not be gratified as well as that of sight. After noticing Tritoma Uvaria as a very ornamental plant not so commonly grown as it ought to be, Mr. Saunders concluded by stating that the exhibition of Fungi would be held at the next meeting, on September 21st, or in October.

BOUQUETS AT THE MANCHESTER SHOW.

I took two bouquets for myself, and two for my son, to the Manchester Exhibition, and after the awards were made I found the first prize was awarded to me, and the second to my son. About two hours after the awards were made a friend was standing with me near the bouquets, when we found they were going to alter the awards, and one of the judges said, "No. 9 card is the prize card." Now, how did he know this, when there was no No. 9 card? for the first-prize card was No. 10, the second-prize card No. 8. As there was no No. 9 card, he said, "There is some mistake, we must go back." They did so, and came again, when I drew their attention to the rules for the guidance of exhibitors. He read them carefully, and then said, "We can do nothing in this matter, we must let the awards remain," and away they went. In half an hour they returned, exclaiming, "We must alter these awards," and they did so. I applied at the Secretary's office to protest against any alteration in the awards. I was told there was no protest allowed. Now, if there was no protest for me, whence did Mr. Yates get the privilege to protest? The schedule says the decision of the judges is final. If so, why do they revise their judgment? If mine had been the finest bouquet ever made, if I had omitted to place proper cards, there evidently would have been no appeal for me. The schedule says expressly exhibitors are responsible for the placing of cards, and as Mr. Yates did not put any cards to distinguish his bouquets, I maintain it was an act of injustice to alter the awards; in fact, the judges' decision is final, and they have no power to alter them.—W. H. Turner.

WHO IS TO BLAME?

Who is to blame for the misrepresentations of catalogues? To illustrate. Who has not seen the grand picture of Laxton's Supreme Pea, short-stemmed, closely-set, magnificent pods, revealing their fourteen fat Peas within, described to grow "about 3½ feet high?" but who has seen it anything like its description? Wishing to grow the best of everything, and revering the name of Laxton, and having the utmost confidence in my seedsmen, I invested in half a pint, at the moderate (?) cost of 3*s.* 6*d.*; these I planted in a row 24 yards long, to give them every chance. The result was straw 7 feet 7 inches high, instead of 3½ feet; instead of fourteen Peas in a pod, out of many hundreds counted I never once found ten; instead of a total growth of 3½ feet, they did not "corn" within 3½ feet, and generally 4 feet of the ground; they required twice sticking, and smothered their far more worthy neighbour, Veitch's Perfection, and, save in the shape of their pods, in no way resembled their description. The same complsint is made by other gardeners who have grown it in this neighbourhood.

Take one other instance: Lemaitre's [Lenormand's] short-stemmed (new), very fine Cauliflower, was sent out at 2*s.* 6*d.* per packet. I weighed the contents accurately, and found it cost at the rate of about £80 per lb. Surely it must be good; but with all the care in cultivation possible, it is no better than many old sorts. Who is to blame for these great disappointments? and who can wonder if gardeners manifest an increasing reluctance to be the first to risk a trial of the wonders of the catalogues?—C. C. E.

PLANTS FLOWERING IN AUGUST.

August 3. Funkia lanceæfolia
Gentiana Pneumonanthe lutea
Hedysarum coronarium
Hemerocallis flava graminea
Morina persica
Lychnis coronata
Phlomis Russelliana
Physalis Alkekengi
Potentilla reptans
Gaillardia picta Richardsoni
Geranium lanceastrienee
Linum perenne Lewisii
Sedum Aizoon album rupeatre
Statice bellidifolia latifolia
Tigridia pavonia
Viola tricolor
Watsonia anguatifolia
Lotus corniculatus plenus
„ 7. Mimulus cupreus
Phlox decussata
Polygonum orientale
Sempervivum tectorum
Sibthorpia europæa
Silene compacta Schafta rubella
Stipa pennata
Tansy
Tradescantia virginica
Veronica candida taurica sibirica alba
Digitalis grandiflora
Fuchsia globosa fulgens corallina
Geum montanum
Mirabilis Jalapa
Lobelia fulgens cardinalis ramosua
„ 10. Nepeta violacea
Rhodiola rosea
Phyteuma orbiculare
Rudbeckia laciniata Newmanni
Verbena venosa teucrioides
Althæa sinensis
Aloysia citriodora
Mimulus cardinalis
Matthiola annua
Abronia umbellata
Ageratum cæruleum mexicanum odoratum
Alonsoa incisifolia Warscewiczii
„ 14. Gazania splendens
Spiræa Ulmaria
Pyrethrum Parthenium Golden Feather
Cineraria maritima
Cladanthus arabicus
Godetia bifrons rubicunda
Gypsophila elegans
Hibiscus africanus
Eryngium alpinum
Polygonatum multiflorum
Sagittaria sagittifolia
Stachys lanata
Symphytum asperrimum caucasicum
„ 17. Acanthus mollis
Aconitum autumnale

August 17. Aster tenellus
Claytonia perfoliata
Athanasia annua
Eucharidium grandiflorum
Helichrysum macranthum
Funkia Sieboldi
Rosemary
Saxifraga rosularis Aizoon
Yucca glaucescens filamentosa
Stenactis speciosa
Oxalis speciosa floribunda versicolor Bowieana
Vinca major
Salvia fulgens tricolor patens bicolor
„ 23. Lilium Thunbergianum longiflorum tigrinum Martagon
Lysimachia ciliata Nummularia thryaiflora
Cytisus capitatus
Alyssum saxatile
Arctotis breviscapa
Campanula carpatica Medium pyramidalis
Eupatorium purpureum
Corydalis lutea sempervirens
Musk
Gladiolus gandavensis ramosus
Liatris pycnostachya
Agrimonia odorata
„ 27. Sedum grandiflorum
Agapanthus umbellatus
Chamæpeuce Casabonæ
Calandrinia umbellata
Anthericum Liliago graminifolium
Colchicum autumnale
Nierembergia rivularis gracilis
Nuphar lutea
Nymphæa alba
Koniga maritima
Lychnis Haageana
Wistaria sinensis
Clematis Henderaoni
Sedum monstrosum dasyphyllum
„ 30. Teucrium Chamædrys
Spiræa Standishii
Agathæa cœlestis
Artemisia maritima
Caliategia pubescens
Pentatemon glabrum
Zinnia elegans
Viscaria oculata
Entoca viscida
Erica stricta vagana
Scrophularia nodosa variegata
Mesembryanthemum crystallinum
Mesembryanthemum cordifolium variegatum
Mesembryanthemum edule
Mesembryanthemum tricolor
Mesembryanthemum violaceum
Meconopsis cambrica
Epilobium angustifolium
Portulaca grandiflora
Whitlavia grandiflora
Rue
Sedum dentatum
Centaurea candidissima depressa
Santolina incana
Sanvitalia procumbens

—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

SUDDEN CHANGE OF TEMPERATURE.

What a season this has been for violent changes. On Friday, August 27th, the thermometer was 85° in the shade, on Saturday 86°, on Sunday evening 52°. On Monday morning my lawn was as white with frost as if it had been midwinter. Kidney

Beans, Potatoes, Vegetable Marrows in the kitchen garden are all black, and in the flower garden Scarlet Pelargoniums quite spoilt for the season. I hear that at Lord Brownlow's, near Grantham, even Broccoli is killed. I think the "oldest inhabitant" cannot remember a frost in August.—J. R. Pearson, *Chilwell, Notts.*

GARDENERS' EXAMINATIONS.

The following are the names of those who took certificates, and the number of marks obtained at the Royal Horticultural Society's examination of gardeners, July 13th. The names of Chiswick students are marked with an asterisk. James Hudson obtained the whole number of marks in Fruit and Vegetable Culture, being the first candidate who has done so.

Name.	Fruit and Vegetable Culture.		Floriculture.	
	Certificates.	No. of Marks	Certificates.	No. of Marks.
George Haskins*	3rd class	360	2nd class	625
Alfred Jones*	3rd class	530	3rd class	4 0
Charles Burley*	3rd class	420	2nd class	675
George Downton*	2nd class	660	1st class	1000
James Hudson, The Deepdene Gardens, Dorking	1st class	1200	1st class	1000
W. Read, Royal Gardens, Kew	3rd class	390	3rd class	425

CUCUMBER CULTURE.—No. 9.

Ridge and Hand-glass Culture.—At the beginning of May prepare some stable litter in the same manner as for hotbeds, and when this has acquired a good heat, and parted with its rankness, without becoming too much decayed, it is fit for ridge Cucumbers. Select an open situation, sheltered from the east and north winds by a wall or fence, and to the west as well, for the violent winds we frequently have from this quarter do great mischief to the leaves. For ridge crops I usually select the west end of a south border, as I find the plants succeed best in such a position.

Having chosen the best situation for warmth and shelter, take out trenches 15 or 18 inches deep, and from 2 feet to 2 feet 6 inches wide, allowing 6 feet between the outside of one trench to the outside of the other. Fill the trenches with well-fermented dung, making it 8 or 9 inches higher than the ground level, and cover with the soil to the depth of 8 inches, and in the form of a ridge. In the centre of each ridge, at every 3 feet, place a hand-glass — those which are square and have moveable tops are the best; there I draw off some of the soil, and replace it with 3 or 4 inches thick of light turfy loam two parts, and one part leaf mould, finally covering with about an inch deep of finely sifted soil of the above description. On the third or fourth day sow about a dozen seeds under each hand-glass, to make sure of four plants, none of the seeds being nearer the outside than 6 inches, the proper distance for all. The seeds are placed on the surface at equal distances, and pressed into the soil with the forefinger, and to the depth of the nail. The holes are then filled up, a gentle watering given, and the hand-glass tops put on, and kept close until the plants appear, which they will do in less than a week. The soil in the meantime is kept moist by gentle sprinklings with tepid water.

When the plants are up, a little air is given early in the day, by lifting the upper part of the glass, and placing it crosswise, varying the amount according to the weather, and closing early, so as to shut in the heat of the sun. The plants will have fine cotyledons and very short and thick stems, if enough air be given. If the stems are weak and long, the plants are kept too close and warm, and require more air. The rough leaves will be broad, and of a deep green; when they appear make choice of the best plants, pull up all but half a dozen, and take out their points at the second rough leaf; this is all the stopping that will be required. By the time the first rough leaf appears, I have the plants earthed-up to the seed leaves with the soil used for sowing in, choosing a fine warm day, and giving a gentle watering with tepid water. Care should be taken not to over-water, but the soil must be moist without being saturated.

When the plants have broken after being stopped, select four of the best, and these, if possible, corresponding to the angles of the lights or glass. The others are taken up carefully, to fill any vacancies in the other lights, or they may be planted-out and covered for a time with flower-pots. The plants are again earthed-up, removing the lights for the purpose; put the soil up to where the seed leaves had been, allowing it to extend somewhat beyond the lights, so as not to form too much of a ridge. The lights are replaced, and the plants have air and water as required.

As soon as the plants fill the glasses, and before they become crowded, the upper part of the glass is fixed, and the whole light raised on the warmest side, by a brick placed on the flat, or a 3-inch pot, for three or four days, and then 1 place under each corner a 4½-inch pot. Within a week I peg down or train the shoots from under the glass, distributing them equally all round. When they begin to run freely, I give air again by the upper part of the glasses, and by degrees withdraw this and the lower part; for if left on much longer, red spider will be encouraged on the foliage beneath the lights, and will rapidly spread. All the plants need after this, will be plentiful supplies of water in dry weather, and occasionally regulating the shoots. The ground between the ridges must be forked over as the plants advance, and be kept clear of weeds. It will be found advantageous to blacken the ground with soot, after stirring and making it even and fine with a fork.

It is usual to sow the seeds under glass, and rear the plants in frames; potting-off, and planting-out under hand-glasses after well hardening-off. Some sow in the beginning of April, or earlier, and the plants turned out at the end of April, or beginning of May, are strong at the time I advise the ridges to be made, and the seed sown. Those who prefer this method have only to plant instead of sow, when the heat in the ridges has come through, and the after-treatment is the same as above. I may, however, state that the best Cucumbers I have had out of doors were those sown from the 10th to the 13th of May, where the plants were to fruit. It is a practice which has been followed a century, if not more. By early sowing a few early and often worthless fruit are obtained, and the plants become stunted, and vanish very often in a day or night without apparent cause, not that those sown where they are to fruit are exempt from the same evil, but having a stronger constitution they are better able to contend with the sudden alternations of heat and cold, wetness and drought, to which they are subjected in our ever-variable climate.

Culture in the Open Ground.—The situation ought as far as possible to be similar to that described for the hand-glasses. The ground should be rich, and if light all the better, as light sandy soils, though drier, are warmer than heavy soils. The seeds should be sown from the middle to the end of May, and in the manner described for plants to be grown under hand-glasses. I make a hole at every 4 feet, beginning 2 feet from the end, and then allow 4 feet from centre to centre of the holes. These may be 1 foot deep, and 2 feet square. A barrow-load of hot dung is placed in each hole, and covered with from 4 to 6 inches of soil, which is made quite smooth, and surfaced with about an inch of fine soil. After marking the size of the hand-glass by placing it over the spot where the hot dung is, the seeds are placed over the space inside the hand-glass, at an inch apart, and pressed into the soil. The holes are then filled up, a gentle watering given, and the hand-glass put on. In a few days the plants will be up. A little air is given, but only enough to keep the plants from becoming drawn. When they show their rough leaves, a little fine soil should be placed round their stems to encourage the emission of roots, and when there are plenty of these the plants are more safely transplanted.

When the seedlings are in the rough leaf, and before the plants are earthed-up, every alternate plant should be thinned out. The plants taken out may be placed two or three in a pot, set in a cold frame, and kept close, shaded, and moist until established, and then be hardened-off, planting out after stopping at the third leaf; or, instead of potting, they may be planted out at once, making holes about 18 inches square and a foot deep, and filling these with hot dung, covered with 6 inches of soil. In the course of three or four days four plants may be pricked out on each station. A large pot inverted over the spot, when the soil is put on the dung, will retain the heat, so that the ground will be quite warm. The seedlings are planted as deep as the seed leaves, a gentle watering is given, and the pot inverted over them, leaving it close at night, but tilted a little on one side after the first day. By tilting more and more every day, it may be withdrawn altogether in a week or ten days; it should, however, be replaced in cold nights, and to shelter the plants from cold, heavy rains.

The plants under the hand-glass will have grown rapidly after the top-dressing, and will be as far advanced for planting

ont as those potted-off and grown in a cold frame. The ground where they are to be planted must be well forked over, and, if possible, at every 3 feet make a hole 18 inches square and a foot deep, and fill it with hot dung; after drawing the soil over it, each set of plants will stand on a slightly-raised mound, the top of which should be made flat. Three or four plants will be sufficient for each mound. Allow 6 inches from plant to plant every way. Give a gentle watering, and protect from sun and cold with an inverted flower-pot. Water will be required every second or third day, according to the heat or dryness of the weather. The distance between the rows may be 6 feet. Watering should take place in the evening, or early in the morning. No stopping will be required if the shoots be equally distributed over the surface. All but four plants may be taken from each hand-light. It usually takes a month from sowing until the plants are of a size fit to plant out. They will fruit in August and September.

Instead of sowing under hand-glasses and planting out afterwards, seed may be sown in pots, and the plants pricked off when large enough, sowing and forwarding them in a frame, and when they have three rough leaves they may be planted out where they are to fruit. The sorts most suitable for ridge culture are Stockwood Long Ridge, Bedfordshire Surprise, and Long Prickly; for open-ground crops the Long Prickly, and the Short Prickly for pickling.—G. Abbey.

THINNING MELONS.

Having on several occasions been unfortunate in Melon-growing, owing to the first-setting fruit having taken the lead, and appropriated all the nutriment to itself, I have this season experimented on one of my plants, by cutting off the fruit when it had attained a sufficient size to show me that it would deprive the others of a fair share of sap. This practice has proved a success; in fact, it has more than answered my expectations. The plant I selected for the experiment was Trentham Hybrid, which at the time of flowering produced eight female blossoms, all of which I fertilised, but I soon found that one of them was swelling much more quickly than the rest. I allowed it to attain the weight of 2lbs.; the others at this time were all turning yellow, and were not larger than a pigeon's egg. The result was, that every Melon on the plant began to swell rapidly, thus allowing me to choose whether I would allow them all to grow, or reduce them to my usual number, which is four to a plant, and by preferring the latter I have obtained some fine fruit.—W. Wrench, *Padnall Grove, near Chadwell Heath.*

[The plan you have adopted has been advocated by Mr. Fish and others, only we would not let a Melon grow to the weight of 2 lbs., and then cut it off, but would do so at a much earlier period. If one Melon sets and swells freely on a plant, later ones will not often swell whilst it remains; hence the importance of having the requisite number set, and commencing to swell at once.—Eds.]

DEATH OF MR. ROBERT THOMPSON.

It is our painful duty to announce the death of Mr. Robert Thompson, so long known and so highly esteemed as the Superintendent of the Fruit Department in the garden of the Royal Horticultural Society at Chiswick, author of the "Gardener's Assistant," and numerous other contributions to gardening literature. The sad event occurred on Tuesday last, the 7th of September, at 7 25 P.M. For a considerable time past Mr. Thompson has been gradually declining since suffering from a stroke of paralysis, with which he was attacked about two years ago; and although he was latterly incapacitated from doing anything either in the way of work or amusement, his intellect never failed him to the last.

From 1824 to the day of his death Mr. Thompson may be said to have been connected with the Horticultural Society, for although his active duties ceased only eighteen months ago, the Society, in recognition of his worth, retained him after affliction had incapacitated him from further service, and now, after a life of forty-four years of great activity, this kind-hearted amiable old man has gone to his rest. There are many who will read this record with feelings of regret. There are those, and they are now few, who began life with him; who shared with him as young men in those early days of Chiswick gardens, the pleasures and privileges attendant on the impetus then given to gardening, such as it had never before received—those days of Thomas Andrew Knight, Sabine, and Lindley. And there is the younger and far more numerous class who have sat at his feet, and have drunk-in instruction from his words and his writings. They, too, will regret him.

Mr. Thompson was born at Echt, in Aberdeenshire, early in September, 1798. The precise date of his birth is not known, as at that period the birth registers of Scotland were not preserved with that care with which they are now. But from his baptism having been on the 16th of October in the same year, we may reckon with some degree of certainty that this ceremony was performed, as it usually is in Scotland, a month or six weeks after birth. His father was a small farmer, and after he had received the solid education of his native parochial school, he was placed under his uncle, who was gardener to Mr. Skene, of Skene, where he was employed in the garden and plantations. He then removed to Haddo House, the seat of the Earl of Aberdeen, where he remained till 1820, and then left for the garden at Dunottar Castle, the residence of Lord Kennedy. After remaining there for one year, he removed in November, 1821, to the gardens of Robert Ferguson, Esq., of Raith, in Fifeshire, where he was for nearly three years.

In 1824 Mr. Thompson reached London, and went directly to the garden of the Horticultural Society, at Chiswick, to which he had been recommended by his late employer's brother, Sir R. Ferguson. The garden was then nearly completed; the collection of fruit trees had just been planted, some of them which were worked on Paradise stocks were coming into fruit; and the walls which enclose the orchard and kitchen garden had then been just finished. Mr. Thompson was at once placed in the fruit department, which was then superintended by a Mr. Christie, and no time could have been more opportune for his entering on his duties, as from the first he had under his observation the immense collection of fruits which then and subsequently has existed in the gardens. Early initiated by Mr. Knight and Mr. Sabine into a knowledge of the characters and merits of the then existing varieties, Mr. Thompson acquired a knowledge and taste for the study of fruits and fruit trees which increased with his years, and which he retained to the last. During the whole of the forty-four years of his active life at Chiswick, pomology was his special and passionate study, not only as it was exhibited under his eye in the garden, but in the literature and practice of the pursuit, as existing on the Continent. It was this well-grounded and thorough knowledge of the subject which enabled Mr. Thompson so well to produce that laborious work, the "Catalogue of Fruits cultivated in the Garden of the Horticultural Society of London," which has formed the foundation of modern pomological synonymy. No one, except such a person as Mr. Thompson, could have done this work so well. His proverbial patience and painstaking, his excessive care and caution, admirably fitted him for such a work, and stamp it with an authority which has never been assailed. It was not, however, in pomology alone that Mr. Thompson excelled. Every department of horticulture received from him its due share of attention; and not in the practice only, but also in the higher principles of the pursuit, did Mr. Thompson eminently shine. In physics, we believe we are doing none of his contemporaries an injustice when we say he excelled them all. His love of physical science was equalled only by his love of gardening; and his knowledge of mathematics was of a high order. No better evidence of the combination of these qualities can be given than that which is furnished in that admirable compendium of horticulture "The Gardener's Assistant." Meteorological science is much indebted to him for the constancy and correctness of the observations he conducted at Chiswick from 1830 till within a few months of his death; a period of thirty-nine years. And here we may take the opportunity of noticing a remark we sometimes have heard made by others who note meteorological observations. Doubts have been expressed as to the correctness of the instruments used at Chiswick. It has been said that the temperatures announced by Mr. Thompson were, when excessive, too high or too low, and that they did not correspond with those of other observers. It is, nevertheless, a striking fact that on an average of thirty years' observations—from 1826 to 1855—the difference in the records of mean temperature between Chiswick and Greenwich amounts only to 0.06°—a lasting tribute to the care with which the Chiswick meteorological observations were made.

Mr. Thompson was a voluminous writer, though he does not appear as the author of many works. In the "Transactions of the Horticultural Society," besides the bulky meteorological

tables, there are many valuable papers on horticultural subjects. To Loudon's "Gardener's Magazine," the *Gardeners' Chronicle*, the "Edinburgh Philosophical Magazine," and other periodical publications he was a frequent contributor. In the preparation of most of his great works, Mr. Loudon acknowledges the aid rendered by Mr. Thompson, and especially in the "Encyclopedia of Gardening," and the "Suburban Horticulturist." He contributed also to the "Penny Cyclopedia," Morton's "Cyclopedia of Agriculture," Maunder's "Treasury of Botany," and, we believe, he was the sole author of the letter-press of the "Pomological Magazine."

Towards the close of his career a tribute to the services he had rendered to horticulture was paid to Mr. Thompson, by the presentation of a testimonial, amounting to the sum of £400, raised by public subscription, and on the end of his active services in connection with the Royal Horticultural Society he retired on full pay.

We understand that the funeral will take place at Brompton Cemetery, on Saturday next.

NOTES AND GLEANINGS.

The Knight of Kerry writes with reference to the Beechwood Melon, noticed in page 169:—"Another Melon from the same frame and of the same kind was cut on August 28th, which, I am assured, weighed rather over 14 lbs. I was not present, but have just now seen it carefully weighed, and it reached 13 lbs. 10 ozs. The length of time that has elapsed since cutting will, I suppose, account for that reduction. My gardener is quite positive that it is Beechwood; he says he knows that Melon perfectly well, and that it entirely corresponds in all particulars; that he had the seed of the Melon from which it is descended some eight or nine years ago when in the service of the Earl of Meath, near Dublin, and that he has carefully preserved the seed of the successive generations year by year. He says that the soil at Valencia is peculiarly suited to the growth of Melons, and has no other way of accounting for the extraordinary size."

WORK FOR THE WEEK.

KITCHEN GARDEN.

Promptly clear away the remains of all crops as they decay. Quarters which require to be trenched during the autumn should be kept free of any crops after this time, in order that the work may be performed before winter. The weather is now favourable for destroying weeds. *Celery*, the ground is in good condition for earthing this up, and its quality depends to a considerable extent on the care bestowed in doing so, and on earthing-up in time. Some of the very latest crop may also be planted in rows to remain through the winter. The haulm of Peas, stored now in a dry place, is a good material for covering Celery during severe frost. *Cabbage*, the seedling plants intended to stand through the winter must now be pricked out in nursery beds of light soil at 5 inches apart; this will cause a stocky hardy growth. The July sowing of *Endive* may now be pricked-out on a warm border, and as the early plantation attains a proper size, the plants should be tied for blanching. No time should be lost in storing the crops of *Onions* when dry, as the ground from which they are taken is generally used for Cabbages; it should be immediately trenched-up, and if manure is necessary, let it be laid on the top of the trenched soil and fork it in. If, however, the ground was well manured for the Onions, it ought to carry the Cabbages without further manuring, and they will thus always come in better, because if too much manure be in contact with the roots in the autumn, it causes a succulent luxuriant growth, which renders the crop more liable to injury from alternations of frost and thaw in winter. *Lettuce*, a small patch of Bath Cos sown now will, if the autumn prove mild, be more valuable than that sown earlier. Now is the last time to make *Mushroom-beds* out of doors. *Winter Spinach* and *Turnip* beds must be kept hoed, and the plants thinned out, the former to 9 inches or so apart.

FRUIT GARDEN.

It will be an advantage to have the fruit-tree borders free and unshaded by any crop at this season; planting Endive, Turnips, and similar crops, keeps the border cold and wet when warmth and air are more particularly required. It would even be more satisfactory to reduce the width of the borders, if even a more limited space could be exclusively secured to the wall trees. If sufficient material, such as sods of sandy loam are not in hand, no further delay should take place in collecting enough for carrying out any proposed alterations.

FLOWER GARDEN.

A surplus stock of bedding plants should always be provided against contingencies. The propagation of Heliotropes, Verbenas, Pelargoniums, and Calceolarias should be proceeded with, as the general utility of these plants for decorative purposes is unquestionable. Chrysanthemums out of doors should be carefully staked; if against a wall, where they thrive better, they should be trained while the shoots are succulent. Propagate them by cuttings for blooming in pots. Budded Rose stocks should be carefully attended to. It is time that buds which have started should be encouraged to form a more vigorous growth by stopping the wild branches of the stock. If Pansies are to be grown well the bed must be renewed yearly, and in order to insure a good spring bloom, the young plants obtained as cuttings or side shoots from the old favourites, in addition to any new varieties which may be bought, should be soon planted. The bed for their reception should be prepared in order that they may be turned out in the end of the month. Auriculas will now begin to excite and require more attention; all decaying leaves must be removed, and occasional top-dressings given. From the wet weather early in the season, it is possible we may have a fine dry autumn; therefore, they must be kept in a moist state, never allowing them to become thoroughly dry. Examine seedlings that are pricked out; if the roots are raised above the surface, which is often the case, re-insert them by making a notch in the soil with the handle of a budding-knife, or a piece of ivory. Pinks should be planted out without delay. Look after seed of Carnations and Picotees, and carefully examine all pods, as the late dry weather has been favourable for ripening. The soil for potting-off the layers ought to be in readiness, keeping it, if possible, under an open shed. Dahlias must, to insure success, have unremitting attention. Take off all blooms which are not promising, and cover, &c., as required.

GREENHOUSE AND CONSERVATORY.

Continue to introduce plants, for however fine the days may be it is dangerous to trust anything out of doors at this period of the year. Cloudless days are very delightful, but it frequently happens they are succeeded by nights as clear, and a nipping frost. Where partial protection exists, many hard-wooded plants may with advantage be allowed to remain out of doors until the end of the month. Carefully examine the condition of each plant, and remedy any defects in the soil or drainage; clear off moss, remove insects, and replace stakes. The ordinary precautions for obtaining a supply of common flowering plants throughout the winter months should be taken. Violets should be potted or planted in a frame; Mignonette thinned and sown; Hyacinths, Tulips, and other bulbs potted and plunged; Pinks for forcing encouraged; and Cinerarias duly attended to. Roses in pots should occupy a fair share of attention; young plants may yet receive a shift, and manure water may be applied to plants in active growth.

STOVE.

Twiners on the roof should now be more than ever kept within bounds, cutting back all shoots that have done flowering, and tying the others so as to obstruct light as little as possible. Place specimens ripening their wood in the coolest part of the house, and water sparingly at the roots. Achimenes, Gloxinias, and Gesneras that are properly ripened-off may be stored in any dry place where they will be secure from frost, but take care to place them where they will be free from damp, and they should not be exposed to a lower temperature than 45° or 50°. Many valuable plants of this kind have been lost owing to storing them in dry sheds. Hardwooded shrubs, such as Ixoras, that have not made their wood after flowering, should be encouraged with a warm moist temperature, syringing them lightly overhead, and shutting-up the house early in the afternoon. Let any growing plants that require more pot-room be shifted as soon as convenient, in order that they may be well-rooted in the fresh soil before winter. Keep a sharp look-out for insects, especially thrips, which are often troublesome at this season on such plants as are growing in a close warm house; either fumigate or remove the plants affected, and thoroughly clean them as soon as this pest is perceived.—W. Keane.

DOINGS OF THE LAST WEEK.

Never was there such a change as from August 28th to 29th, pretty well roasted the one day and frozen the next. The evening

of the 29th was piercingly cold, and on the 30th and the three following mornings we had hoar frost thick on the grass, and a thermometer showing from 1° to 2° below freezing-point. Some fine scarlet Pelargoniums were blanched a little in consequence. A few Perillas on raised beds were touched, whilst others on the level were not at all affected. Almost every kind of Coleus was affected, except the brown Coleus Verschaffelti, and Dwarf Kidney Beans passed uninjured. The cold would have had a greater effect but for the dryness. On the 29th we heard of heavy rains farther north, yet we had none that reached the ground here, but a singular phenomenon presented itself during fully half the day. There seemed to be more than a thick Scotch mist in the air, and as you looked at it between the eye and some lofty trees, you could see the rain drops thick and eddying in great waves, as if resolved to give everything a refreshing shower, but so far as we saw not a drop reached the ground, the roads being dust-dry all day. The only exception took place beneath lofty trees, as from the highest branches and leaves there were droppings of moisture. No week could have been more suitable for harvest operations, and the fields are being fast cleared. A good rain would greatly help the Turnips.

In the kitchen garden and fruit garden, besides sowing Cauliflower for the last time, and Lettuces, the work has been mostly a continuation of that largely dwelt on in the notices of previous weeks, chiefly surface-stirring, watering, planting, &c. We shall just allude to some matters shortly this week, as more prominently coming under our attention.

Wasps.—For a few days we were quite overrun with these, but the cold nights seemed to have much lessened their numbers, so that as yet we have not put up hand-light traps or bottles to catch them. We feared for our Morello Cherries, as even with the best covering the wasps will find their way to them, and therefore we gathered all the fruit, thinking it safest in bottles, however preserved. Currants, &c., are not safe from their depredations, unless under gauze or fine wire netting. Gooseberries with us are just over. We have often had the Warrington in a shady border very fair in October.

Cabbage Butterfly, and Moths.—We lately alluded to the extraordinary numbers of the ladybird this season, and the popular errors respecting it as destroying the Bean crops. We never saw so few moths as we have done this season. Our Cabbages and Cauliflower have suffered a little from dryness, but that is an evil not felt where there is abundance of water; but in such a summer we often have had in addition whole clouds of white butterflies depositing their eggs, on all the Cabbage tribe especially, followed by myriads of larvæ, which threatened to clear all before them. Finding cleaning and liming the foliage a troublesome operation, when we had young boys we used to send them on the pleasant work, to them, of hunting down the butterflies, and it was amazing how many they would capture in a sunny forenoon. We do not think we have seen half a dozen white butterflies during the season, and yet the winter was so mild, so free from frost. It just confirms what we lately referred to, the falsity of the common idea that a continued severe frost is good for ridding us of grub and insect enemies. The reverse is often the case. Their instinct tells them how to guard against all such casualties, by securing warm places, or going down greater depths in the soil. In mild winters they are encouraged to make their appearance too soon, and are killed by the succeeding cold. This theory seems at least plausible, and is so far confirmed by results. We have noticed the same thing frequently with self-sown annual seeds. When a sharp frost had set in about the beginning of November, and the first part of the winter was cold, the seed, not having vegetated, would withstand the cold and come up strongly in spring; on the other hand, when the winter was mild up to Christmas and afterwards, and then we had severe frosts in January, February, and later, there were fewer plants from self-sown seeds, or even sown by hand, because they had vegetated in the first part of the winter, and were cut up by the following frosts. We have noticed this chiefly in the case of annuals not quite hardy under general circumstances, as there are some of our annual weeds that no frost or changes seem able to destroy. We have rarely known the smallest plants of Thistles or Groundsel injured; even seeds which have just germinated, do not seem to suffer, but many young seedlings do, and in this case there may be an analogy between them and insects, as respects the effects of mild and severe winters.

ORNAMENTAL DEPARTMENT.

Besides putting the flower gardens and pleasure grounds in first-rate order, making lots of cuttings, &c., we may mention the following:—

Lavender.—There is no better mode of making a plantation than taking off slips in autumn or early in spring, and planting them firmly at once. To have the Lavender healthy, and for it to continue so, the ground should be well stirred, but not much enriched. We have seen many instances in which greater vigour was required, where it was better to enrich with surface-dressings instead of digging manure into the soil. As the stalks have opened about half their flowers they should be gathered and sorted, and no plan is better for keeping than tying in small bundles and enclosing in muslin bags. What falls off, or even the stalks chopped, come in useful for mixing with Rose leaves. On the manufacture of oil of Lavender, Lavender water, &c., it is not our province to enter.

Biennial plants, as Canterbury Bells, Sweet Williams, and even Wallflowers, Daisies, Heartsease, and Violets, should now be planted-out, or pricked-out to be planted when the ground is cleared. All *Violets* will need watering when the weather is dry. Our beds of Neapolitan Violets have been several times cleared of runners, as we mean to lift and transplant with balls under glass in a month or so. A little red spider and mildew made their appearance on them, owing to the dryness, and, therefore, they were dredged a little with soot and sulphur, and syringed with clear water a few days afterwards. It is advisable always to have them clean before placing them under glass.

Hollyhocks, Dahlias, Phloxes, &c.—Hollyhocks have been fine this season, without having a drop of water given to them. When in masses, we often fix them in rows by running a stout string from stake to stake, and fastening the stems individually to the string, and thus a few stakes serve for a row or belt. We should remember that it must be a fine stake that becomes any ornament in itself. The aim should be to conceal all such necessary propping as much as possible. We have seen Dahlias so spread out and staked, as to be perfect deformities to the eye—to be grown, in fact, as if for the purpose of having a forest of sticks put in about them. The only way to render Dahlias a pleasing feature to the eye, and thus have every plant symmetrical and natural in outline, is to have only one stake to a plant, and that not quite so high as the top shoots. We are supposing that each plant, as it ought to be, is grown to one stem. This is secured to the stake as it grows, and then all side shoots are secured in their natural position by passing a looped string from the stake round the under side of the side branch. A Dahlia may thus be rendered secure from the force of the wind, and the weight of rains and heavy dews, and yet show neither stake nor tying.

Time of Watering.—With scarcely any watering the flower beds, when not interfered with by intruders, are rather better than on the average of seasons. If we must water some of them, and most likely such free-growers as Salvias and Calceolarias may want it, we shall prefer giving the water in the forenoon, instead of in the afternoon, that the surface soil may be dry before evening. As we may expect the nights to become cooler, all plants in pots out of doors we shall now, as a rule, water early in the day, so that the pots and soil may not be so much cooled at night. Many plants that would not suffer in the least from a little cold at their tops, will be much injured by the free exposure of a damp pot to the air, more especially if the young roots are clustered near the sides of the pot. Plunging, or something wrapped round the pot, would prevent many a casualty. Where that cannot be conveniently done, all tender plants should be placed under cover before long. The mere standing exposed in a pot, even when the precaution of watering in the first part of the day is taken, exposes plants to more danger than if they were planted or plunged in the ground. At one time, for a furnishing purpose, we used to grow Dahlias, and they succeeded admirably in 12-inch pots, but year after year we found the plants in pots suffered from cold some days and even weeks before their neighbours which were planted out in the usual way, even though the latter were more luxuriant, and on that account more liable to injury. This we considered was owing to the free exposure of the pot, because when the pots were plunged, the plants withstood the cold of autumn better than those planted out.

Pinks, Cloves, Carnations, and Picotees.—Rooted slips if planted out now will be well-established before winter; nevertheless, where a spare frame or cold pit can be given them, we prefer potting fine kinds, and sheltering them during the winter, not so much to protect them from cold as from their many enemies. We have had and lost several good collections

from the incursions of enemies. Slugs, &c., are bad enough, but they are nothing compared to rabbits, rats, and mice. We once had several hundreds of good kinds, pretty plants in 4-inch pots, cut down to the surface of the pots in one night by rats, and in the pleasure grounds we have found massive beds like a desert in the spring by the incursions of hares and rabbits. Hardly any fence will keep such intruders from them, nothing but a solid wall which they cannot leap. Efforts must be made to have the plants referred to somewhere, as for cut flowers they cannot be dispensed with.

Cutting-making.—This has formed one of our chief employments, so as to provide for the flower garden next year. We have already alluded to particulars. It is of importance to strike all we can in a cool place. Verbenas, Petunias, Lobelias, Ageratums, and Pentstemons, do better under glass, shaded by day, kept close, and with a little air at night, which prevents drawing and damping. The air at night is very essential. The simpler and lighter the material in which they are put the better. All mixture of old soil should be avoided if possible. Nothing is better than the sandy gritty loam which is obtained from the sides of the highways, with a sprinkling of sand or road drift. If leaf mould or dung is mixed with it, there is the chance of fungus troubling the cuttings and young plants. Bedding Pelargoniums will still strike well enough in the open air. A little flagging is of no consequence. The cuttings of all such plants as Verbenas should be drawn through weak tobacco or quassia water, as it is better to secure the cuttings being clean than to clean them afterwards.

Where gorgeous beds and borders are desired, neither a cutting nor a bloom should ever be taken from them until the latter is faded. What we advocate in this respect, we have not been able to practise. We have no space in which we can form mixed borders for cuttings and cut flowers. We must take both from beds and borders that come prominently before the eye, but no one feels the impropriety of doing so more than we do. We, therefore, delay as long as possible taking off cuttings, and these and numbers of cut flowers diminish the symmetry and massiveness of the beds. Lately we took about two hundred cuttings from a line of Bijou Pelargonium, and we wished afterwards we had delayed for a week. Where there are large kitchen gardens, borders for flowers and cuttings could easily be placed there, and the show beds remain as such.—R. F.

COVENT GARDEN MARKET.—September 8.

A very slow trade indeed, with little signs of improvement. Importations have largely added to our stocks this week, which comprise all the usual varieties of Pears and Apples at this season. Plums are sufficient for the demand.

FRUIT.

	s.	d.	s.	d		s.	d.	s.	d
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	4	0	8	0
Oberries ..... lb.	0	6	1	0	Oranges 100	10	0	14	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	6	0	12	0
Currants .... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	2	0	4	0	Plums ..... ½ sieve	3	6	6	0
Filberts ..... lb.	0	6	1	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	0	6	1	0	Raspberries ..... lb.	0	6	1	0
Gooseberries .. quart	0	0	0	0	Strawberries .... lb.	0	0	0	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts ..... bushel	10	0	16	0
Lemons 100	8	0	12	0	do. 100	1	0	0	0

VEGETABLES.

	s.	d.	s.	d		s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Kidney ½ sieve	2	6	4	0	Mushrooms .... pottle	1	0	2	0
Beet, Red ..... doz.	2	0	3	0	Mustd. & Cress, punnet	0	2	0	3
Broccoli ..... bundle	1	0	0	0	Onions .. doz. bunches	4	0	6	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	8	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	2	0	2	6	Peas ..... quart	0	6	1	6
Carrots ..... bunch	0	8	1	0	Potatoes ..... bushel	2	6	4	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	5	0	0	0
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb ..... bundle	0	0	0	6
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	8	0	0	Tomatoes ..... doz.	1	6	3	0
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	6
Horseradish .. bundle	3	0	6	0	Veget. Marrows .. doz.	1	0	2	8

TRADE CATALOGUES RECEIVED.

James Carter & Co., 237 and 238, High Holborn, London, W.C.—*Carter's List of Dutch Bulbs, Fruit Trees, Roses, &c., for* 1869.

D. Gold McKay, Market Hill, Sudbury, Suffolk.—*Catalogue of Dutch Flower Roots, Seeds for Autumn Sowing, Herbaceous Plants, Roses, Fruit Trees, &c.*

F. & A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Select Dutch Flower Roots, &c.*

Smith & Simons, 36 and 38, Howard Street, St. Enoch Square, Glasgow.—*Dutch Root List.*

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Hyacinths, Narcissus, &c.—List of Strawberries.*

Stuart & Mein, Kelso.—*Descriptive Catalogue of Choice Hyacinths and other Dutch Bulbs.*

Hooper & Co., Central Avenue, Covent Garden Market, London.—*Autumnal Supplement to Hooper & Co.'s General Catalogue, containing Descriptive Lists of Dutch and other Bulbs, &c.*

Robert Parker, Exotic Nursery, Tooting, Surrey.—*Catalogue of Hyacinths and other Bulbous Roots, Fruit Trees, &c.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*An Old Subscriber*).—"British Ferns," price 3*s.* 6*d.*, or free by post from our office for 3*s.* 10*d.* (*W. C.*).—You can have the "Cottage Gardeners' Dictionary" free by post from our office if you enclose 7*s.* 2*d.* in postage stamps with your address.

Verbenas for Exhibition (*A Learner*).—The following are six good kinds for the purpose—viz., Foxhunter, Mrs. Reynolds Hole, Mrs. Perry, Madame H. Stenger, Géant des Batailles, and King of the Lilacs. The "Cottage Gardeners' Dictionary," 6*s.* 6*d.*, or free by post 7*s.* 2*d.*

Seedling Pelargonium (*H. O.*).—It is impossible to give an opinion without seeing the flowers.

Dinder Lodge (——).—The information in the "Horticultural Directory" is quite correct.

Quercus Cerris (*W.*).—This, the Turkey or Mossy-cupped Oak, like all the species, flourishes most on a deep rather tenacious soil, but we have seen good specimens on a light soil; and a chalky soil would probably produce it well if of good depth.

Culture of Leptopteris superba (*J. W. K.*).—The temperature and moisture of your Fern house is too uneven for the Leptopteris. It should be potted in a compost of two parts sandy fibrous peat one part yellow light loam, and one part grit or sandstone, in pieces not larger than a hazel nut, nor less than a pea. Use a pot just large enough to hold the roots well, and allow for an increase in growth. Drain it well, and place it in a pot or pan, so that the rims of the two will be on the same level, placing the inner one on crocks. The outer pot should be large enough to contain the fronds without their touching the glass they are to be covered with. Fill the space between the pots with crocks to within an inch of the rim, and the remainder of the space with charcoal made small, sifting it first through a half inch sieve, then through a sieve with an eighth-of-an-inch mesh, and use what remains in the sieve. Cover with a bell-glass having holes in the top. It should rest on the charcoal. The glass should be taken off every morning and wiped dry. If the bell-glass have three holes at top, it will give sufficient ventilation. We find the plant succeeds well when thus treated, or in a house kept uniformly moist, but not from syringing over the fronds; avoid that. A glazed frame is useful for such plants.

Marchioness of Hastings Grape (*W. E.*).—It produces very large, loose bunches, with watery and flavourless berries. Its only recommendation is its size. It is an early Grape, and ripens in an ordinary vinery.

Muscat Grapes (*An Old Subscriber*).—They are only slightly rusted, and being ripe, it will not injure their quality. Rust, we believe, is induced by sudden exposure to cold currents of air.

Grapes (*T. G. Partridge*).—We do not know any private garden in which the Ulliade noir and Schiras are cultivated, but you may see them in the Royal Horticultural Society's garden at Chiswick.

Vines not Growing (*A Beginner*).—The shoot and leaves are attacked by red spider. Little can be done this year beyond syringing the Vines every morning and evening, and shutting up the house early in the afternoon. Continue this treatment throughout the present month, after which the house should be kept drier. Air should be given early in the morning, so as to have the foliage cool and the air in motion when the sun shines powerfully, otherwise the leaves may become spotted. A good watering ought to be given the roots without delay, and repeat it in a fortnight. Cut the Vines back to two or three eyes in December, and paint them with sulphur brought to the consistency of paint by mixing with it 8 ozs. of soft soap to a gallon of tobacco water. Apply the sulphur mixture with a brush, rubbing it well into every crevice, but being careful of the buds. The house ought to be thoroughly cleaned,

and the walls washed with lime and sulphur in equal parts, brought to the consistency of whitewash by 4 ozs. of soft soap to the gallon of water. Do not give the Vines very much water until they are growing freely, then afford copious supplies every fortnight or three weeks, and maintain a moist atmosphere by sprinkling the paths, walls, &c., twice or thrice a-day. Select the strongest shoot, train it carefully, stop the laterals at the second or third joint, and when they break again let them make three or four leaves, and then take out their points. We think the Vines will grow next year

Vine Leaves Discoloured (*J. H.*).—The leaves are very like those of the Espiran, but you say they are from the Black Hamburgh. We believe the discoloration arises from the leaves being formed in or exposed to a cool, moist atmosphere, followed by heat or much sunshine. They are unprepared for the consequent excessive evaporation, and ripen prematurely and assume their autumn tints. Such foliage is often a sign of good, rather than bad health. Perhaps a slight shade for a few days in bright weather, after a dull period, would prevent the discoloration, but we do not advise shading for Vines, or only of a very temporary description. The best time to lift Vines is early in March, or before the eyes begin to swell. We do not think the discoloration arises from the roots being deep, but the contrary, and we do not advise the lifting of Vines as long as they continue to produce good crops and firm, well-ripened wood. Besides, Vines five years planted cannot now require lifting if the border is good, and means have been adopted to prevent the roots going down into bad soil; indeed, the roots ought to be restricted to the border by a concrete or flagged bottom, and walls at the sides and ends. They are then entirely under command.

Vines Breaking (*Norwood*).—We can hardly understand about the Vines you want to start in January breaking now. You had better let them alone. Give them all the air possible; if very hot, even shade; and defer pruning till the end of October or November. If the Vines are breaking and you prune now, you must keep on growing them; better defer in ordinary circumstances.

Placing Pot Peach Trees out of Doors—Pots for Vines (*Reader*).—There will be no danger in leaving your Peach trees in pots out all the winter if the pots be plunged and mulched, and the buds protected from birds and very severe frost. Probably the trees in the vinery were too much shaded. Most likely the Vines planted out in July received a little check. They should have been shaded at first. No doubt the roots are catering for themselves. Your pots 2 feet deep and 20 inches in dismeter are ample in size for Vines in pots. Instead of enlarging the size of the pot we would mulch and top-dress with rich material. This will prevent all starving at any period.

Peach Tree Dropping Its Fruit (*J. B. L. H.*).—As the tree, the fruit of which we do not recognise, is so healthy, the dropping of the fruit prematurely is owing most likely to excessively vigorous growth and the full ripening of the wood. We would continue giving plenty of air and abundance of water after the fruit is fairly set and swelling; but when it is ripe we would give but little water, and be more anxious to harden the wood than to keep it growing. Allowing a tree to become dry and then watering freely will often cause the fruit to fall. It is safest to water a width of, say, 3 inches from the wall at a time, and then follow in a few days with 24 inches or more in width.

Peach Trees Infested with Aphis (*Old Correspondent*).—The Peach leaf sent is infested with the brown Peach aphis. It may be destroyed by an efficient syringing with tobacco water, that of the shops being diluted with six times its volume of water, or it may be made by pouring a gallon of boiling water over 2 ozs. of the strongest shag tobacco, cover up closely, letting it stand until cool, and then straining, applying to the trees with a finely-rosed syringe, thoroughly wetting the trees in every part. The best means of riddance is fumigation with tobacco, the house being made quite full of the smoke, so that a plant cannot be seen through the glass from the outside. The size of the fruit would be increased by top-dressings with rich compost, and abundant supplies of water, and occasionally liquid manure. Probably too many Peaches are left on the trees, so that the trees are unable to swell the fruit to a good size.

House for Pine-Apple Culture (*H. S.*).—Both a lean-to and a span-roofed house are good for the purpose, but had we our choice we would have a span-roof, wide enough to have a walk all round, and a walk down the centre, with a bed on each side, and we would heat each bed beneath, either with pipes or a tank, or both, and have enough of top heat for the atmosphere of the house. Thomson on the Pine Apple is plain, terse, and much to the purpose. The "Pine Apple Manual" would probably suit you, and may be had from our office by post for 2*s.* 8*d.*

Peaches Mealy (*Idem*).—Peaches become mealy and fall off, chiefly from a too heavy crop, or from some irregularity as to moisture at the roots. Stagnant water will cause them to fall, so will too much dryness, and dryness succeeded by abundant watering at once. It is better to water gradually.

Lilium auratum after Flowering (*A. Y.*).—Pot it as soon as the leaves fall and the stem becomes yellow. Do not disturb the roots, merely remove any loose soil. Give a moderate shift. Equal parts of fibrous loam, sandy peat, and leaf mould will grow it well. Drain the pots well, give a gentle watering after potting, and keep the soil just moist during the winter. In potting leave space for top-dressing in spring. Winter in a pit or house from which frost is excluded, though a few degrees of frost will not injure the roots if the pots are plunged. Do not take the bulbs up.

Tropæolum tricolorum Culture (*Idem*).—It ought to be potted without delay, indeed it will soon be in growth. It is well to use a rather small pot, say one 6 inches in diameter, and place it in one of larger size, so that the rims of both may be on the same level, filling the space between halfway up with crocks or the roughest part of the compost. This may consist of two parts light fibrous loam, one part peat, one part leaf soil or old cow dung, and one-sixth silver sand. Cover the bulb with soil, and keep the soil moist. Never overwater. Commence training early. A light airy position in a greenhouse with a winter temperature from fire heat of 40° to 45° suits it. It will flower next March or April.

Tropæolums for Winter Decoration (*A Salopian*).—Tropæolums are excellent for winter decoration. We employ the Lobbianum varieties. Triomphe de Gand, Brilliant, and Elegans, we like best. We grow them in two ways—as climbers, and as pot plants; in the first case we take off cuttings in spring, or early in summer, pot as required, and shift into 9-inch pots in August, or at the beginning of September. The shoots are trained to wires fixed about 9 inches from the glass, but they will succeed equally well on trellises in a light situation. Triomphe de Gand is best for this purpose. The soil used is a mixture of turfy light loam, old mortar rubbish, or broken pots, leaf mould or old cow dung, in equal parts. Good drainage is necessary. Pot plants we raise from cuttings inserted at the end of July, or early in August, in a gentle heat, placing one cutting in a 3-inch pot. When the cuttings are rooted, we pinch out their points three joints from the soil. When they begin to grow again we harden them off, remove them to a cool, airy house, shift into 4½-inch pots, and to each place a neat stake painted green, and not more than 18 inches high. Tie the shoots to the stake, and pinch off all flower-buds as they appear, stopping when the shoot has grown 6 inches. When it again pushes select a leader, tie it to the stake, and pinch out the points of the side shoots when they have grown so as to have three or four joints, and stop the leader when it has grown 6 inches. Shift into a 6-inch pot, and stop again at the third joint. The leader will now be at the top of the stake. The plants will now begin to flower; keep them compact by stopping at the fourth leaf. They will continue to grow and bloom most of the winter, in a temperature of 45° to 50°. If larger plants are wanted, 7, 8, or even 9-inch pots may be used. Give no more water than enough to keep them fresh. When the soil becomes dry, give a good supply. The tuberous-rooted Tropæolums, as tricolorum, Jarratii, &c., are also good. Some notes on their culture will be found in answer to another correspondent. They are very handsome if trained to a wire trellis, or to the top of a young Spruce or Larch, 2 or 3 feet high, and the twigs of the Spruce or Larch covered with the wire-like shoots of the Tropæolums, the pretty bright green leaves, and rich orange, yellow, and brown flowers, have a fine effect on the centre of a dinner-table. The Larch tops make excellent supports for this class of plants much better than wire trellises. The tops should have parted with the bark, or it should be removed, the shoots thinned out, and the twigs equally disposed, widest at bottom, and gradually tapering upwards like a cone. Except for dinner-table decorations, and particular purposes, so much care need not be taken.

Salt as a Manure for Strawberries (*W. I.*).—We should have no idea of, as you say, "pickling" Strawberry plants even in winter, but a little thrown between the rows would be beneficial rather than otherwise. No doubt salt would help to keep the soil moist. A Potato that grows only 7 inches in height and ripens its tubers in two months from the time of planting, would no doubt be useful for pot culture.

Flower-garden Arrangements (*D. C.*).—Your arrangement of the flower de lis will look very well, but we would border all; thus, instead of mixing 2, 2, in the first, we would centre with Golden Chain Pelargonium and edge with Viola cornuta; and if we edged 3 with white Alyssum we would centre with a purple or chocolate-coloured Verbena Similar remarks may apply to the second group. The circles 4 and 18 may be planted in almost any way, as they form no part of the groups. They will look very fair, though we do not much like the Beet so near so many pretty plants. (*Vitis*).—We have no doubt you can make any of your proposed arrangements look well; but for the tank breaking the view we would have preferred all the border being the same We like the plan first proposed best, as the simplest and most effective. We do not enter into your proposed panelling, as we do not see how you will have room for that and so many regular rows besides. We would rather panel entirely the borders round the tank, or vandyke them, and that would make a change. Anything like intricacy in such borders generally mars the effect.

Setting a Saddle-boiler (*L. I. F.*).—Your plan of setting the boiler seems correct. A terminal saddle boiler is better than the common one, as the end of the boiler is filled up, and with one tap you can empty both sides. The great point is to have the top of the boiler considerably lower than the lowest pipes in the house; to have the flow pipe as near the top, and the return pipe as near the bottom of the boiler as possible: The advantage of having a plate 15 inches from the furnace-door to the boiler, chiefly consists in making the furnace larger, and securing when necessary a slower combustion. The smaller boiler should suit your purpose for such a small house; but as changes of purpose often take place, we would prefer the larger-sized boiler named, as the expense of setting will be much the same. The economy of working a small boiler will greatly depend on the having a close-fitting furnace, and especially ash-pit doors, also on having a damper in the chimney. As frequently stated, for general purposes a flue or brick stove is cheaper for small houses, as do what you will much heat will go up the chimney. The hot water, however, is the cleanliest way of applying heat, when a little more for fuel is no consideration.

Truss's Pipes and Joints (*A. W. L.*).—We hear that the advantages of these pipes and joints are neatness of appearance with perfect tightness. The pipes may be moved in any direction without impairing the joint; any length of pipe can be taken out in a few moments and as quickly inserted as required. They are made to any size, and are now laid by large companies to 4-feet bore. The saving in cost of work is very considerable.

Various (*Erin-go-Bragh*).—The best way of heating such a conservatory, opening into a drawing-room and dining-room, would be by hot-water pipes beneath an open trellised pathway, and the beds or tables so formed as to look most effective from the rooms. The large pond at the bottom of the garden would do well for aquatics, either planted out or submerged in large boxes, or lashed. Such as the following would suit you:—Aponogeton distachyon, Butomus umbellatus, Calla palustris Nuphar lutea, Nymphæa alba, and Hottonia palustris. There are few Ferns that would grow on the sides of such a pond, unless there were shade as well; but that noble Fern, the Osmunda regalis, would be in its element in places at the sides, made like a marsh with a little bog or heath soil. Ducks will dirty a pond, if shallow, with their movements, and a pond of any kind, so far, with their droppings. Swans will not thrive in very shallow water, and they prefer moving water to a pond, however large. They live chiefly on vegetable matter, and thus do much to keep water free from weeds, but at times they will also fare sumptuously on the young of carp, tench, &c., and such fish as are found in still water. We do not give plans or plant plans of flower gardens, but we criticise, and thus help. You may easily change to your own mind the form of the beds, and change of plan is often pleasing in itself. We ourselves have had the same plan many years, but we change the planting every season. Most likely you would be assisted by "Flower Gardening for the Many," price 4*d.*, from our office, and "Flower Garden

Plans, &c.," price 5s., where many plans and modes of planting are given. We know of nothing better for covering your paling by the side of the avenue than different kinds of Ivy, and you might relieve the sameness with Clematis, &c. We do not know the length of your Peach wall facing the south, the wall itself being slate, or faced with slate, but the following will give a good succession:—Early Grosse Mignonne, Royal George, Noblesse, Barrington, Walburton Admirable, the last a late one. By plovers, we presume you mean the lapwing or peewits, and these when tamed are more useful in a garden in disposing of grubs, snails, and insects than even Ducks, and most useful the young of the latter are, as they never scratch as hens do, and their paddle feet do little harm.

Strawberry Plants (*R. H.*).—We cannot recommend nurserymen. If you refer to our advertising columns you will see several announcements of what you require.

Applying Ashes (*W. B. C.*).—You may apply ashes to your adhesive soil with advantage. It will make the soil more free-working and open, and considerably improve the staple. The ashes should be applied in autumn, and worked into the soil, it being well in such soils as yours to throw it up in ridges in autumn, and turn it over frequently in dry frosty weather during the winter and early spring months. The soil will be ameliorated by the frost and exposure to the air, and the ashes will be more equally disposed through the soil by the frequent stirrings.

Budding Pears, Apples, and Plums (*Idem*.—It is late to bud these but you may try budding now, and if they fail you can graft in March. The stocks to be grafted next spring may be partially cut back this autumn, but not much, the heading being left until the grafting is done in spring.

Hollyhock Propagation (*Agnes*).—Of the three sorts of stems we should prefer the short stubby ones that come from the base of the plants, particulars of which you will see at pages 162 and 172 of the Journal of August 26th. No time should be lost in getting in the cuttings so as to have them established before winter.

Pinching-out the Hearts of Brussels Sprouts (*H. W.*).—We do not advise the cutting of the hearts, as it tends to bring the crop all in together, the Sprouts swelling the whole length of the stem, come in simultaneously; and by leaving them entire the plants produce a succession of Sprouts for a long time. By pinching-out the heart, however, the Sprouts become of a good useable size the full length of the plant, and can all be taken from the plant at once, or within a short period, and the ground is thus earlier set at liberty for other crops.

Hyacinths, Tulips, and Crocuses in a Pit (*Amateur*).—Your pit will answer admirably. It will not be too damp in winter, and you could employ a gentle fire in dull weather to cause a circulation of air, which would dissipate the damp, a little air being given. The flue, we presume, is not covered with the ashes, or if it be, we do not see its utility. It should run along the front of the pit and have the top, at least, uncovered. Bottom heat is not necessary. Air should be freely given in mild weather, and in severe a covering of mats over the lights will lessen the need for fire heat, and that should be kept at a minimum.

Tacsonia, Rhynchospermum, and Passiflora Culture (*E. M. M.*).—The Tacsonia not having flowered, may do so this autumn. Train the shoots out moderately thin, keeping them from becoming too crowded, so as to fully expose them to light and air. The shoots ought not to be further from the glass than 9 inches, nor nearer than 6 inches. If it do not flower, keep rather dry in winter, and in early spring thin out the weak bare shoots, and train the young growths as they proceed in their place. The Rhynchospermum should have the shoots trained in, and not too closely together, not shortening or pruning otherwise than to thin them out where too thick, and shortening when shoots are required to fill vacant space. The old bare shoots may be cut clean out, replacing with young. Give enough water to keep the foliage fresh, but inclining to dryness during the winter months. Keep the Passiflora dry at the root, and thin out the shoots so as to expose fully to light and air, thereby securing the well-ripening of the shoots. Do not prune, however, too closely at this season, for if that be done it is likely the plant will start into growth, especially if the atmosphere be moist. The dryness of the soil should not be greater than to keep the plant inactive through the winter. Moisture must be given as required to keep the wood from shrivelling. Prune in rather closely at the end of January or beginning of February, and as the growth progresses give increased supplies of water.

Hardy Ferns under a Beech Tree (*A Regular Subscriber*).—You will, we presume, have the mound formed into rockwork with stones. It will be a good position for Ferns, water being given during dry weather in summer. The following kinds would succeed:—Asplenium Adiantum nigrum, A. Trichomanes, A. viride, Athyrium Filix-fœmina and varieties, corymbiferum, multifidum, and plumosum; Blechnum spicant, and its variety ramosum; Cystopteris Dickieana, C. fragilis; Lastrea montana (Oreopteris), L. Filix-mas and variety cristata, L. rigida, L. cristata, L. dilatata, Osmunda regalis (for damp situations at the foot of the rockwork); Polypodium vulgare, P. cambricum, P. Phegopteris, P. Dryopteris, P. alpestre; Polystichum angulare and variety prolifermo, P. aculeatum, and P. Louchitis; Scolopendrium vulgare, and varieties latifolium, multifidum, ramosum majus, subcoronatum, and submarginatum multifidum. The best time to procure them is in spring, planting out at the end of March or beginning of April.

Fruit (*A Subscriber*).—Messrs. Webber & Co., Covent Garden Market. Mr. Mart is still in Oxford Street, and that direction would be sufficient.

Skeletonising Leaves (*E. F.*).—Ivy, Chestnut, Oak, and almost any other leaves with prominent nerves and veins are suitable. We know of no flower the petals of which can be skeletonised; but the seed-vessels of Physalis Alkekengi (Winter Cherry), and P. edulis (Cape Gooseberry), answer very well.

Names of Fruits (*W. Ashwell*).—The Fig you sent us was crushed as flat as it was possible for it to be. Send it again in a stouter box, and by some conveyance by which it will not be so damaged as by the post. It is a very fine-looking fruit. We had 5*d.* postage to pay, partly as a fine.

Names of Plants (*F. S. A.*).—Aster Amellus. (*Esher*).—Phygelius capensis. (*Ann Carr*).—1, Cheilanthes microphylla; 2, Tamarix gallica. (*H. C. F.*).—Bignonia radicans. Cut away the small weak shoots of the former year in winter, and shorten the strong ones to about 2 feet long, that young shoots may be obtained for flowering the following summer. (*Alfred Squires*).—Houlletia Brocklehurstiana. (*James Scott*).—1 and 2, Verbascum nigrum; 3, Pentstemon venustum or Richardsoni. (*W. Y.*).—1, Pernettia angustifolia; 2, Hypericum patulum var.; 3, Ligustrum lucidum; 4, Spiræa Fortunei. (*Henry Bottomley*).—Hibiscus syriacus.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 7th.

Date.		Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
		Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed...	1	30.345	30.322	68	36	58	58	E.	.00	Cloudy and cold; fine; clear and fine.
Thurs.	2	30.300	30.250	64	37	58	58	N.E.	.00	Fine, cold wind; overcast; clear, starlight.
Fri....	3	30.170	30.051	67	32	56	57	S.E.	.00	Densely overcast; cloudy but fine; fine.
Sat....	4	29.873	29.771	75	52	57	56	E.	.00	Very fine; exceedingly fine; fine, starlight.
Sun...	5	29.674	29.664	79	51	60	57	S.E.	.20	Overcast; densely overcast; cloudy, very mild.
Mon...	6	29.758	29.575	71	58	61	58	S.W.	.30	Showery; heavy showers; rain at night.
Tues..	7	29.848	29.773	75	59	62	58	S.		Cloudy; very fine; densely overcast, very mild.
Mean..		29.995	29.915	71.28	46.43	58.86	57.43	...	0.50	

POULTRY, BEE, AND PIGEON CHRONICLE.

LEICESTERSHIRE AGRICULTURAL SOCIETY'S POULTRY SHOW.

It is a matter of general congratulation that this Society's exhibition is resuscitated, the cattle plague having unfortunately made a break in the arrangements of this long-established institution, of which poultry has formed a most popular part for a long series of years. The care and attention bestowed on the specimens exhibited were equal to those at former meetings, and the poultry department was a most undoubted success.

Dorkings were first-rate, a couple of very fine hens in the pen shown by Mr. Warner being in excellent trim; the cock belonging to Mr. Wood in the second-prize pen was, however, the best male specimen. In chickens these gentlemen reversed their positions. *Spanish* and *Cochins* formed good classes, but we regretted to see leg-disease in a capital pen. The White Cochins, both old and young, were the gems of the Show, the chickens more particularly being the best seen this season. In *Game* fowls the chickens were the best shown, the old birds being mostly out of feather. *Hamburghs* were indifferent. *Bantams*, also, we could have wished better. *Ducks, Geese*, and *Turkeys* were first-rate. Mr. Worthington showed the best Rouen Duck that has been exhibited this season.

Pigeons were remarkably good; Messrs. Forster, Choyce, and Draycott being heavy exhibitors.

Every provision was made to prevent injury from bad weather to the birds exhibited, but the day was fine, and the attendance of visitors quite equal to the anticipations of the Committee.

Dorkings.—1, H. Warner, Loughborough. 2, R. Wood, Clapton. *Chickens*.—1, R. Wood. 2, H. Warner.

Spanish.—1, J. J. Sharpe, Kettering. 2, W. T. Everard, Alton Grange. *hc*, J. Stephens, Walsall. *Chickens*.—1, J. Stephens. 2, M. Brown.

Cochin-China (Any colour).—1, H. C. Woodcock. 2, H. Warner. *Chickens*.—1, J. Stephens. 2, A. O. Worthington, Newton Park.

Cochin-China (White).—1, A. O. Worthington. 2, Mrs. Williamson, Queenborough Hall. *Chickens*.—1 and 2, Mrs. Williamson. *hc*, A. O. Worthington.

Game (Black-breasted and other Reds).—1, H. Warner. 2, W. H. Clars, Twycross. *c*, W. T. Everard. *Chickens*.—1, 2, and *hc*, W. H. Clare.

Game (White, Piles, or any other Colour).—1, W. T. Everard. 2, T. Ragg. *Chickens*.—1, W. T. Everard. 2, H. Warner.

Hamburgh (Golden-spangled).—1, J. Stephens, Walsall. 2, Earl Ferrers, Staunton Harrold, Melbourne. *Chickens*.—1, J. Stephens.

Hamburgh (Silver-spangled).—1, H. Warner. 2, J. Faulkney, Bretby Farm. *Chickens*.—1, H. Warner. 2, J. Stephens.

Bantams (Gold-laced).—Prize, H. Draycott, Humberstone.

Bantams (Clean-legged).—1 and 2, H. Draycott.

Bantams (Black Clean-legged).—1 and 2, H. Draycott.

Game Bantams (Black-breasted and other Reds).—1 and 2, H. Warner. *Cock*.—Prize, Lord Manchline, Deonington Park.

Extra Stock.—*hc*, J. Choyce, Pinwall Grange.

Ducks (Aylesbury).—1 and 2, J. Choyce.

Ducks (Rouen).—1, A. O. Worthington. 2, J. Wright, Sysonby. *hc*, A. O. Worthington. *c*, W. T. Everard; J. Wright.

Turkeys.—1, J. Bleasby, Pitsford Hall. 2 and *c*, W. H. Johnson, Braunstone.

Geese.—1, J. Choyce. 2, W. Cockram, Smisby, Burton-on-Trent. *hc*, A. O. Worthington. *c*, J. W. Faux, Coleorton.

Pigeons.—*Carriers.*—1 and 2, F. F. Foster, Birmingham. *Turbits.*—1, F. F. Foster. Equal 1, W. Choyce. 2, J. J. Sharp, Kettering. *c*, F. F. Foster. *Pouters.*—1, F. F. Foster. 2, H. E. Emberlin, Oadby. *c*, J. J. Sharp; F. F. Foster. *Jacobins.*—1, F. F. Foster. 2, W. Choyce. *Fantails.*—1 and 2, F. F. Foster. *hc*, H. E. Emberlin, Oadby; H. Draycott. *c*, W. Choice. *Magpies.*—1 and 2, H. Draycott. *Any other Variety.*—1 and 2, H. Draycott. *hc*, F. F. Foster; W. Choyce; H. Draycott; J. Choyce. *c*, Lord Manchline.

Rabbits.—*Heaviest.*—1, W. Foulds, Loughborough. *Greatest Length of Ears.*—1 and *hc*, H. Warner. 2, Right Hon. P. Hastings, Donington Park. *Any other Variety.*—Prize, W. Foulds.

Edward Hewitt, Esq., of Sparkbrook, Birmingham, was Judge.

DRIGHLINGTON AND ADWALTON POULTRY SHOW.

This took place on the 4th inst., and was more successful than any which has been held by the Society for many years. The Show had grown worse and worse year after year, until it seemed probable it would cease, but the appointment of an energetic Secretary has altered things for the better; and if the prizes be augmented every year in the same proportion as in the present one, there is little doubt but ere long this will become a most important Exhibition.

Spanish.—1, T. C. & E. Newbitt, Epworth. 2, H. Beldon, Goitstock, Bingley. *hc*, J. Thresh, Bradford.

Dorkings.—1, E. Leech, Rochdale. 2, J. Codd, Idle. *hc*, H. Beldon.

Cochins.—1 and 2, C. Sidgwick, Ryddlesden Hall, Keighley. *hc*, H. Firth.

Brahma Pootra.—1, E. Leech. 2, J. T. Wood, Saddleworth. *hc*, M. Scott.

Game.—*Black-breasted or other Reds.*—1, and Cup E. Ackroyd, Bradford. 2, H. Jowett, Idle. *Duckwing or other Grey or Blue.*—1, H. Jowett. 2, G. Noble, Staincliffe. *hc*, J. Fell, Adwalton. *Any other variety.*—1, R. Hemingway, Shell. 2, J. Brook, Gomersal. *hc*, R. Turner, Drighlington.

Hamburghs.—*Golden-spangled.*—1 and 2, H. Beldon. *Silver-spangled.*—1 and 2, H. Beldon. *Golden-pencilled.*—1, W. Clayton, Keighley. 2 and *hc*, H. Beldon. *Silver-pencilled.*—1, Cup, and 2, H. Beldon. *Black.*—1, C. Sidgwick. 2, H. W. Illingworth, Idle. *c*, W. Brown, Birstall.

Any other Distinct Variety.—1, H. Beldon. 2, J. S. Senior, Dewsbury.

Game Bantams.—1 and *hc*, W. F. Entwisle, Leeds. 2, J. Ramsden, Drighlington. *c*, J. Fell, Adwalton.

Bantams (Any other variety).—1, H. Beldon. 2, J. White, Netherton, Wakefield. *hc*, T. C. Harrison, Hull.

Turkeys.—1, E. Leech, Rochdale. 2, J. Saville, Birstall.

Guinea Fowls.—1, W. Buttrey, Gildersome.

Geese (Any variety).—1, E. Leech. 2, J. White.

Ducks.—*Aylesbury.*—1, E. Leech. 2, D. Render, Adwalton. *Rouen.*—1, J. White. 2, J. S. Senior, Dewsbury. *hc*, C. Sidgwick; E. Leech; H. Jowett; J. Ward, Drighlington.

Any Breed.—*Cock.*—1, J. White, Wakefield. 2, H. Jowett. 3, T. Denton, Southowram. *hc*, C. Sidgwick, Keighley; H. Belden; J. S. Senior; T. C. and E. Newbitt.

PIGEONS.

Carriers.—1, J. Hawley. 2, H. Yardley, Birmingham.

Pouters.—1, T. Tetley, Birkenshaw. 2, W. Ackroyd, jun., Birkenshaw.

Tumblers (Almond).—1, J. Hawley. 2, H. Yardley. *hc*, W. Lund, Shipley.

Tumblers (Any other variety).—1, J. Hawley. 2, W. Lund. *hc*, H. Yardley, Birmingham. *c*, H. O. Steel, Gomersal; J. T. Lishman, Girlington.

Barbs.—1, H. Yardley. 2, J. Hawley. *c*, W. Lund.

Antwerps.—1, J. T. Lishman. 2, B. Field, Birkenshaw; J. S. Senior, Dewsbury; S. Smith, Bradford. *hc*, J. Dawson, Gildersome; W. Lund.

Turbits.—1, T. C. & E. Newbitt. 2, W. Lund; H. Yardley; J. T. Lishman. *hc*, J. Hawley.

Fantails.—1, J. Hawley. 2, T. C. & E. Newbitt.

Jacobins.—1, T. C. & E. Newbitt. 2, J. Hawley.

Trumpeters.—1, J. S. Senior. 2, J. Hawley. *hc*, H. O. Steele; J. T. Lishman.

Any other Variety.—1, J. T. Lishman. 2, J. Hawley; S. Smith; J. T. Lishman. *hc*, J. Thresh; W. Lund; H. Yardley; H. O. Steele. Extra prize for greatest number of points.—J. Hawley.

Judge.—Mr. E. Hutton, Pudsey.

BLACKPOOL POULTRY SHOW.

This took place on September 2nd. The entries were not very numerous. The following are the awards:—

Spanish.—1, C. W. Brierley, Middleton. 2 and *hc*, J. Leeming, Broughton.

Dorkings.—1 and *hc*, J. Smith, Manchester. 2, W. H. Butcher, Lea.

Cochin-China.—1, C. W. Brierley. 2, Miss Jackson, Garstang.

Game.—1, C. W. Brierley (Brown Red). 2 and *hc*, W. Haughton, Inskip (Black Red).

Hamburghs.—*Golden-spangled.*—1, Miss Jackson, Garstang. *Silver-spangled.*—1, Miss Jackson. 2, J. Leeming, Broughton. *Golden-pencilled.*—1 and 2, B. Bee, Goosnargh. *Silver-pencilled.*—1 and *hc*, B. Bee. 2, C. Moore, Poulton. *Any other Variety.*—1, J. Noblet, Layton. 2, J. Partington, Leigh. 3, J. Smith.

Game Bantams.—1, J. Walker, Halifax. 2, W. Milner, Inskip. *hc*, Bonny & Davis, Blackpool.

Bantams (Any other variety).—1, J. Walker, Halifax. 2, R. B. Riley, Halifax.

Game Cock.—1, C. W. Brierley. *hc*, W. Haughton.

Ducks.—*Aylesbury.*—1, B. Bee. *c*, W. Milner. *Any other Variety.*—1, C. W. Brierley (Rouen). 2, M. B. Riley, Hipperholme (Rouen). *hc*, C. W. Brierley; J. Smith.

Geese.—1, W. H. Butcher, Lea. *hc*, J. Grime, St. Michael's.

Ornamental Fowls.—1, C. W. Brierley.

WAKEFIELD POULTRY SHOW.

This Show opened on the 2nd inst., and was very creditable to the Managers. The poultry and Pigeons were exhibited in pens in a large tent, which admitted of excellent ventilation, and the pens (Turner's), were so arranged round the sides and through the centre as to secure two large promenades, and at the most busy period of the day no inconvenience was felt as regards either room or heat.

The *Game* were very good as a whole, but most of the adult birds were moulting. The cup for the best pen was given to adult Black Reds in fine feather and condition. *Game Bantams* were good, and the cup went to Duckwings, and in other varieties Pekins won both prizes. The *Hamburghs* were excellent though not numerous, and the cup went to a fine pen of adult Gold-spangled. Adult *Spanish* looked badly, but the chickens were well shown. The adult *Dorkings* were only of moderate quality, but the chickens were good. In this section the cup was won by such a pen of Buff *Cochin* chickens as is rarely seen, and the *Brahmas* were good throughout. *Polands* were first in the "Variety" class, and handsome *Crève-Cœurs* were second. The Rouen *Ducks* were of very great size.

There was a good show of *Pigeons*. The Carriers, winning Pouters, and Trumpeters were exceptionally good, and the Owls, Nuns, Turbits, and Jacobins were also noteworthy. In Almonds, Mr. Fulton showed a fine pen of excellent ground colour.

Among Lop-eared *Rabbits*, Mr. Hudson's excellent Tortoiseshell buck stood first, and a good Fawn second. Nothing can excel the beauty and neatness of the winners in the class for Himalayan, and the quality of fur in the Chinchilla in the "Variety" class.

Game (Black-breasted or other Reds).—1, C. Chaloner, Steetly, Whitwell, Chesterfield. 2, H. Jowett, Idle. *c*, H. M. Julian, Hull. *Chickens.*—1, C. Chaloner. 2, Master G. Crosland, Wakefield.

Game (Brown-breasted Red).—*Chickens.*—1, H. Jowett. 2, H. Hatton, Cleckheaton. *hc*, H. Beanland, Bradford; C. Chaloner.

Game (Duckwing, Blues, or Greys).—1, C. Chaloner. 2, H. Jowett. *hc*, H. M. Julian.

Game (Any other variety).—1, H. C. Mason, Drighlington. 2, J. Sunderland, Halifax. *hc*, J. W. Thompson, Southowram.

Game (Any colour).—*Cock or Cockerel.*—Cup and 1, C. Chaloner. 2, J. W. Thompson. *hc*, H. Jowett. *c*, H. Hatton. *Hen or Pullet.*—1, H. C. Mason. 2, E. A. Johnson, Wath-upon-Dearne. *hc*, Miss K. Crosland, Wakefield.

Game Bantams (Black-breasted or other Reds).—1, W. F. Entwisle, Leeds. 2, J. Crosland, jun., Wakefield. *hc*, J. Crosland, jun.; J. R. Robinson, Sunderland; G. Noble, Staincliffe, Batley.

Game Bantams (Any other variety).—Cup and 1, Miss A. Crosland, Wakefield.

Bantams (Any variety).—1, H. Beldon, Goitstock, Bingley. 2, J. White, Netherton. *hc*, J. H. Dawes, Birmingham; S. S. Messop, Long Sutton; S. & R. Ashton, Mottram; S. H. Stott, Rochdale.

Hamburghs (Gold-spangled).—Cup and 1, H. Beldon. 2, J. White. *hc*, S. & R. Ashton. *Chickens.*—1, H. Beldon. 2, E. Brierley, Heywood.

Hamburghs (Silver-spangled).—1 and 2, H. Beldon, *hc*, W. A. Taylor, Manchester. *Chickens.*—1, H. Beldon. 2, W. Bairstow, Feurncliffe, Bingley.

Hamburghs (Golden-pencilled).—1, H. Beldon. 2, S. Smith, Northowram, Halifax. *Chickens.*—1, H. Beldon. 2, S. Smith.

Hamburghs (Silver-pencilled).—1 and 2, H. Beldon. *Chickens.*—1, H. Beldon.

Spanish.—1, J. Thresh, Bradford. 2, H. Beldon. *hc*, T. C. & E. Newbitt, Epworth. *c*, J. Hornsby, Grantham. *Chickens.*—1, H. Beldon. 2, W. & F. Pickard, Thorner, Leeds. *hc*, J. Thresh.

Dorkings (Any variety).—1, W. Bearpark, Ainderby, Northallerton. 2, J. Codd, Shipley, Leeds. *Chickens.*—1, E. Leech, Rochdale. 2, Rev. E. Bartrum, Berkhampstead. *hc*, W. H. King, Sandfield, Rochdale.

Cochin-China (Cinnamon or Buff).—1 and 2, W. A. Taylor. *c*, J. H. Dawes, Birmingham.

Cochin-China (Any other variety).—1, W. A. Taylor. 2, J. Turton, Ackworth. *hc*, J. White. *Chickens.*—1, W. A. Taylor. 2 and *hc*, C. Sidgwick, Keighley.

Brahma Pootra (Any variety).—1, E. Leech. 2, J. H. Pickles, Birkdale, Southport. *Chickens.*—1, J. H. Dawes. 2, E. Leech. *hc*, J. H. Pickles.

Any other Variety not Classed above.—1, H. Beldon (Polands). 2, Hon. H. W. Fitzwilliam, Wentworth Woodhouse (Crève-Cœurs). *hc*, Hon. C. W. Fitzwilliam (La Flèche); C. Chaloner.

Ducks (Aylesbury).—1, E. Leech, 2, S. H. Stott, Rochdale. *hc*, J. T. Beaumont, Greenhead, Huddersfield.

Ducks (Rouen).—1, J. Dixon, Bradford. 2, J. White. *hc*, E. Leech; S. H. Stott; J. Dixon.

Any other Variety.—1, C. W. Brierley, Middleton. 2, J. Dixon. *hc*, A. & J. Trickett, Waterfoot, Manchester; J. Dixon.

Geese.—1, E. Leech. 2, J. White. *hc*, Rev. G. Hustler, York.

Turkeys.—1, E. Leech. 2, S. H. Stott.

Selling Class.—1, C. W. Brierley. 2, H. Beanland. *hc*, W. Firth, Birkenshaw; W. Fell, Adwalton, Leeds.

PIGEONS.

Carriers.—1, E. Horner, Harewood. 2, J. Hawley, Bingley. *hc*, E. Walker, Leicester; R. Fulton, Deptford.

Dragoons.—1, E. Horner. 2, H. Yardley, Birmingham. *hc*, J. L. Lishman, Girlington, Bradford.

Pouters.—1 and 2, E. Horner.

Trumpeters.—1 and Cup J. Hawley. 2, E. Horner. *hc*, Hudson and Burnip, Epworth; E. Horner.

Barbs.—1, R. Fulton. 2, J. Fielding, un., Rochdale; E. Horner; J Hawley; J. Fielding.
Owls.—1 and 2, J. Fielding, jun
Turbits.—1 and c, E. Horner. 2, J. Fielding, jun. *hc*, J. T. Lishman.
Fantails.—1, J. Hawley. 2, I. F. Liversidge, Newark-on-Trent. *hc*, J. Hawley; H. Yardley; E. Horner; T. C. & E. Newbitt, Epworth.
Jacobins.—1, J. Hawley. 2, T. C. & E. Newbitt. *hc*, H. Yardley; R. Fulton.
Nuns.—1, W. Croft, Killinghall, Ripley. 2, J. E. Thompson, Hull. *hc*, E. Horner.
Tumblers.—1, R. Fulton. 2, J. Fielding, jun. *hc*, J. Hawley; R. Fulton.
Antwerps.—1, E. Horner. 2, J. T. Lishman. *hc*, J. Crosland, jun., Wakefield.
Any other Variety.—1, E Horner. 2, J. T. Lishman. *hc*, H. Yardley.
Selling Class (Any variety).—1, J. Hawley. 2, Hudson & Burnip, Epworth.

Rabbits.—*Lop-eared Buck.*—1, B. Hudson, Holl. 2, T. Ingham, Leeds. *hc*, S. Hardcastle, Walmgate, York; F. Mosy, Leeds. *Lop-eared Doe.*—1 and 2, T. Ingham, Leeds. *hc*, A. H. Easten, Hull. *Himalayan.*—1, J. R. Jessop, Hull. 2, S. G. Hudson, Hull. *hc*, J. Batterworth, Stony Field, Rochdale. *Any other Variety.*—1, J. R. Jessop, Hull. 2, S. G. Hudson. *hc*, C. Rayson, Prestwich, Manchester.

Judges.—*Poultry, Pigeons, and Rabbits:* Mr. J. Douglas, Clumber, Worksop; and Mr. E. Hutton, Pudsey, Leeds.

BINGLEY POULTRY SHOW.

The third annual Show of the Airedale Agricultural Society was held in Myrtle Park, Bingley, on the 1st inst. The following is the prize list :—

Game (Black and other Reds).—Cup, H. Jowett, Idle. 2, J. Hird, Fearncliffe. 3, W. Drake, Allerton.
Game (Any other variety).—1, T. Dyson, Halifax. 2, Mrs. E. Winwood. Worcester. 3, J. Bentham.
Spanish.—Cup, F. & C. Haworth, Newfield, Haslingden. 2, W. & F. Pickard, Thorner, Leeds. 3, J. Berry, Silsden. *hc*, R. Longbottom, Bingley; J. Thresh, Bradford.
Dorkings —1, J. White, Warlaby. 2, E. Leech, Rochdale. 3, T. E. Kell, Wetherby. *hc*, T. E. Kell; D. Gellatly, Meigle.
Cochins.—Cup and 2, C. Sidgwick, Ryddlesden Hall, Keighley. 3, W. Harvey, Sheffield.
Brahmas.—1, C. Layland, Warrington. 2, E. Leech. 3, M. Scott, Cote, Idle. *hc*, D. Gellatly; J. Smith, Long Lee, Keighley.
Hamburghs (Gold-spangled).—1, E. Brierley, Heywood. 2 and 3, W. Driver, Keighley
Hamburghs (Silver-spangled).—Cup, 2, and 3, W. Bairstow, Bingley. *hc*, T. Fawcett, Baildon.
Hamburghs (Gold-pencilled)—Cup, R. Longbottom, Bingley. 2, R. Anderton, Gilstead. 3, S. Smith, Northowram. *hc*, W. Clayton, Morton Banks, Keighley; J. Smith, Gilstead; S. Burn, Whitby; H. Pickles, Earby.
Hamburghs (Silver-pencilled).—1 and 3, J. Walker. 2, H. Pickles. *hc*, H. Pickles; B. Hutton, Bingley.
Hamburghs (Black).—Cup and 2, C. Sidgwick. 3, J. Cockcroft. *hc*, Baxter & Murgatroyd, Idle.
Any other Variety Except Bantams.—1, J. S. Senior, Dewsbury (Polands). 2, J. Bowker, Keighley (Silver Polands). 3, W. Harvey.
Game Bantams.—Cup and 2, W. F. Entwistle, Leeds. 3, G. Noble, Stanncliffe.
Bantams (Any other variety)—1 and 3, Miss Robinson, Long Lee, Keighley. 2, T. C. Harrison, Hull.
Selling Class.—1, R. Berry, Silsden (Spanish). 2, J. I. Booth (Spanish). 3, M. Scott. *hc*, S. Felgate, Ipswich; F. & C. Haworth. c, J. Berry.
Ducks (Aylesbury).—1, E. Leech. 2, J. I. Booth.
Ducks (Rouen).—Extra 1, E. Leech. 2, S. H. Stott, Rochdale. 3, C. Sidgwick.

PIGEONS.

Pouter.—*Cock.*—1, E. Horner, Harewood. 2, R. Fulton, Deptford. 3, F. Crossley, Elland, Halifax. *hc*, R. Fulton. *Hen.*—1, F. Crossley. 2, 3, and *hc*, R. Fulton.
Carrier.—*Cock.*—1, E. Horner. 2, F. Crossley. 3, R. Fulton. *hc*, J. Watts, King's Heath, Birmingham. *Hen.*—1, 2, and *hc*, F. Crossley. 3, R. Fulton.
Tumblers (Almond).—Cup and 2, R. Fulton. 3, J. Fielding, Rochdale. *hc*, W. R. & H. O. Blenkinsop, Newcastle-on-Tyne; F. Graham.
Tumblers (Any other variety..—1, R. Fulton. 2, W. Whitaker, Belper (Bronze Balds). 3, J. Hawley. *hc*, F. Graham.
Barbs.—1, F. Crossley. 2, J. Fielding. 3, E. Horner. *hc*, F. Crosaley.
Owls.—1, F. Crossley. 2, D. McCollin. 3, J. Fielding. *hc*, F. Graham. Birkenhead.
Jacobins.—1, R. Fulton. 2, E. E. M. Royds, Greenhill, Rochdale. 3, J. Hawley. *hc*, E. Horner.
Trumpeters.—Cup and 3, J. Hawley. 2 and *hc*, E. Horner.
Fantails.—1, E. Horner. 2, J. F. Loversidge, Newark. 3, J. Hawley. *hc*, W. H. Tomlinson, Newark.
Turbits.—1 & 3, E. Horner. 2, R. Wilson, Thirsk (Black). c, W. R. Park, Melrose.
Dragoons.—1, E. Horner. 2 and *hc*, T. Smith, Keighley. 3, S. Smith, Bradford.
Antwerps.—1, J. Fortune. 2, C. Anton, jun., York. 3, W. Harvey. c, W. H. Mitchell, Moseley, Birmingham.
Any other Variety.—1. H. Yardley, Birmingham (Satinettes). 2, E. Horner. 3, W. Harvey. *hc*, J. Watts.
Any Variety.—1, W. Harvey. 2, W. Lund, Shipley. 3, E. Horner.

CANARIES.

Belgian (Yellow).—1, J. Smith, Bocking, Keighley. 2, J. Shepherd. 3, J. Bexson, Derby. c, J. Hollings, Bingley.
Belgian (Buff).—1, J. Smith. 3, W. Needler, Hull. 3, J. Shepherd.
Norwich (Yellow).—1, W. Heap, Bradford. 2, Allen & Baines, York. 3, J. Heaton, Fearncliffe.
Norwich (Buff).—1, J. Bexson. 2, Allen & Baines. 3, W. Heap.
Yellow Marked.—1, W. Heap. 2 and 3, J. Shepherd.
Buff Marked.—1, J. Shepherd. 2, I. Wildman, Bingley. 3, W. Needler.
Coppie.—1 and 2, J. Shepherd. 3, Allen & Baines.
Mule.—1 and 2, W. Heap. 3, W. Needler.
Any other Variety.—1, J. Shepherd. 2, G. Midgley, Bocking. 3, J. Banister, Micklethwaite.
Cock of any Breed.—1, J. Cockshott, Bingley. 2, J. Heaton. 3, W. Heap.

RABBITS.

Heaviest Rabbit.—1, H. Firth, Sheffield (Black and White Doe). 2, J. Pearson (Tortoiseshell Doe). 3, C. Gravill, Thorne.
Lop-eared.—1, S. Hardcastle (Fawn Buck). 2, T. Ingham. 3, W. Allison, Shipley.
Any other Variety.—1, A. H. Easten, Hull (Himalayan). 2, J. R. Jessop, Hull. 3, A. G. Poole (Angola). c, H. Jennings.

The Judges were—for *Poultry and Rabbits*, Mr. R. Teebay, Fulwood, Preston; *Pigeons*, D. Wolstenholme, Esq., Highgate, London; and *Canaries*, R. Gledstone, Esq., Idle.

MIDDLESBROUGH POULTRY SHOW.

The Meeting of the Cleveland Agricultural Society was this year held at Middlesbrough, and the Exhibition was excellent. The poultry were placed under two large tents, and the entries were much more numerous than in any previous year. The first-prize adult *Spanish* were a neat pen, and the winning *Dorkings* were the same. Of *Brahmas* there was a good entry, and the competition was close. Of *Game*, the first-prize Reds were fine, firm-handling birds; so were the winning single cocks. The winning *Hamburghs* were almost perfect, and an excellent pen of Houdans was first in the "Variety" class.

The Aylesbury *Ducks* were wonderful for a show so far north, and the Rouens were also quite as noteworthy for both size, colour, and marking of beak.

The *Geese*, however, were the leading feature of the Exhibition. The White Embden in the adult class were extremely difficult to judge, so large was the number, and so close the competition. The first-prize Toulouse goslings were almost as large as adult birds, and an extra first prize was awarded to an equally fine pen of White.

The *Turkeys* were large, but the young birds shown were almost all cocks. The Himalayan *Rabbits* were very pretty.

Spanish (Black).—1, W. Bearpark, Ainderby Steeple, Northallerton. 2, G. Holmes, Great Driffield.
Dorkings.—1, J. White, Warlaby, Northallerton. 2, E. Leech, Rochdale. *hc*, W. Bearpark; J. White.
Cochin-China (Buff or Cinnamon).—1, G. H. Proctor, Durham. 2, G. Calvert, Darlington.
Cochin-China (White).—1 and 2, G. Calvert.
Cochin-China, Partridge, or Grouse.—1, R. E. Brown, Wass, Oswaldkirk, York. 2, W. Barnes, Ingramgate, Thirsk.
Brahma Pootra (Any colour).—1, E. Leech, Rochdale. 2, J. Walker, Haya-Park, Knaresborough. *hc*, J. Rutherford, Kirkleatham, Redcar; Rev. J. F. Newton, Kirby-in-Cleveland.
Game (Black-breasted or other Reds).—1 and 2, T. Blackburn, jun., Broughton, Northallerton. *hc*, J. Walker.
Game (Any other variety).—1, W. Bearpark. 2, G. Pounder, Kirby Moorside.
Game Cock.—1, T. Blackburn, jun. 2, W. Bearpark. *hc*, T. R. Loy, Stokesley; G. Pounder; G. Ingledew, Great Ayton, Northallerton.
Game Bantams.—1, J. Pennington, Market Place, Thirsk. 2, W. Lawrenson, Egglescliffe, Yarm. *hc*, G. Carter, Sand Hill, Bedale; J. Ramsey; G. Holmes.
Hamburghs.—*Golden-pencilled.*—1, J. Walker. 2, W. Bearpark. *hc*, J. Webster, Whitby; G. Holmes, Great Driffield. *Silver-pencilled.*—1, J. Walker. 2, W. Bearpark. *Gold-spangled*—1, J. Walton. 2, G. Holmes. *hc*, W. Bearpark. *Silver-spangled.*—1, J. Walker. 2, G. Holmes.
Any Distinct Variety.—1 and *hc*, Rev. J. G. Milner, Bellerby, Leyburn. 2, W. T. Wilton, Ryhope, Sunderland.
Any Variety of Cross.—1 and 2, G. Pounder.
Ducks.—*Aylesbury.*—1, E. Leech, Rochdale. 2, M. Harrison, Warter, Pocklington. *hc*, Miss Smith, Stokesley; Mrs. Storey, Stokesley; W. Stonehouse, Whitby. *Rouen*—1, O. A. Young, Driffield. 2, C. Stamper, Highfield House, Oswaldkirk. *hc*, C. Stamper; E. Leech; J. Walker. *Any Variety.*—1 and *hc*, Rev. J. G. Milner. 2, S. & R. Ashton.
Geese.—1, Miss Walton, Acklam, Middlesborough. 2, E. Leech. *hc*, Mrs. Buffham, Lofthouse, Saltburn-by-the-Sea; Mrs. Braithwaite, Stokesley. c, W. Sherwood, Ingleby, Greenhow. *Goslings.*—1, Rev. G. Hustler, Stillingfleet Vicarage, York. 2, O. A. Young, Driffield. Equal 2 and *hc*, Mrs. Braithwaite.
Turkeys.—1, E. Leech, Rochdale. 2, Mrs. Braithwaite. *hc*, Miss B. Barker, Battersby, Ingleby Greenhow; O. A. Young. *Poults.*—1, Mrs. Redhead, Picton, Yarm. 2, L. Manfield, Thirsk.

Rabbits.—*Length of Ears* (Any colour).—1, T. Bensley, Egglescliffe, Yarm. 2, W. Wilson, Middlesbrough. *Heaviest* (Any colour).—1, W. Wilson. 2, T. Bensley. *Fancy Breed.*—1 and 2, W. Bainbridge, Newport, Middlesbrough (Himalayas.) *hc*, T. Bensley.

Judge.—Mr. E. Hutton.

RABBITS AND THEIR JUDGES.

I was much pleased with the remark of "Himalayan," in page 197, for there is no class of exhibitors who are subject to so much annoyance, and who have so much right to complain of the conduct of committees with respect to judges as the Rabbit-fanciers. Having had more experience in these matters than most exhibitors, and being now out of the fancy, though

still taking a deep interest in Rabbits, I can add some remarks without being thought an interested party. The whole fault can be summed up in a few words—gentlemen who know nothing about Rabbits, and do not understand them, undertake the duties of Rabbit judges. Some of these judges, too, have an idea that, as compared to the poultry and Pigeons, the Rabbits are worthless, and treat them accordingly. Now, if they would take the trouble to inquire they would find that the Rabbit-fanciers are at as great an expense as exhibitors of poultry and Pigeons, and if committees will not be at the expense to provide a competent person as judge, they ought not to offer prizes. I have repeatedly heard committeemen and judges say, that the Rabbit men are the most discontented and dissatisfied of all exhibitors. Why, I ask, have they this character? If the services of a man who could judge the Rabbits aright were secured, it would soon be found that the Rabbit-fanciers were as contented a lot of men as other exhibitors.

It would be a good plan for Rabbit exhibitors to name a person they know to be a good practical Rabbit judge, so that committees may know who are the men who would be acceptable to the fancy.—M. Millinoton, *York*.

In answer to the latter part of "Himalayan's" letter, I for one see no reason why the Vice-Presidents, Committee, or Stewards of a show should not exhibit what they like, and as many specimens as they think fit. If exhibitors cannot trust the different Show Committees to appoint Judges, who will work fairly and honestly, without awarding the prize or prizes to an exhibitor solely because he is the owner of the field in which the Show is held (which one exhibitor at the Rochdale Show last year stated as a fact), they had much better keep both themselves and their specimens away. And latterly, with regard to the judging of Rabbits which seems to trouble "Himalayan" so very much, I am at a loss to know what will satisfy exhibitors, when I tell them that at the Rochdale Show this year there were three Judges appointed for Rabbits, to adjudicate in only three classes; they had six prizes to distribute amongst twenty-nine Rabbits, and yet there is grumbling, and that by our leading and oldest exhibitors.—The Winner of all the Silver-Grey Prizes at the Last Rochdale Show.

FOUL BROOD—ITS PRODUCTION AND CURE.

I have received another letter from Mr. Lambrecht, in which after sundry compliments to myself, he proceeds to combat the conclusions of Dr. Preuss. The line of argument taken by him is identical with the doubts expressed as to the correctness of the mycological theory in page 372 of the fifteenth volume of "our Journal," by that excellent observer, "R. S." Mr. Lambrecht urges that the fungi described by the learned doctor are the effect and not the cause of foul brood, and that instead of originating the disease, they are in point of fact produced by it. His letter is accompanied by an article, of which I append a translation. It is scarcely to be expected that five hundred subscribers will be found in Great Britain, but I shall be happy to receive the names of those who may be willing to subscribe, and when we see how many we can muster, will submit the list to Mr. Lambrecht.—T. W. Woodbury, *Mount Radford, Exeter*.

REPORT OF THE CURE OF VIRULENT FOUL BROOD IN THE EXPERIMENTAL HIVE AT BRUNSWICK, TOGETHER WITH MINUTES TAKEN ON THE SUBJECT.

"He who would extirpate an evil must learn to commence at its root."

The apiarian readers of this Journal will probably remember that we had been requested by the Brunswick Apicultural Society to produce foul brood in an experimental hive by the administration of fermented pollen, and then to cure the pestilence which had been thus produced. The former having been satisfactorily accomplished, as proved by the reports published in The Journal of Horticulture of the 8th of July, we now embrace the opportunity of making public the result of the latter part of our undertaking.

The experimental hive having been declared foul-broody according to the report of the 23rd of May, we in vain expected to be required by the Commission to undertake its cure; but it was only after the lapse of nearly four weeks, when the stock was declared by the commissioners to be "rotten-foul," and when one might clearly perceive that it was their intention to render the cure altogether impossible, that we were called upon to proceed. But what a sight revealed itself upon removing the crown-board, and what a task! A handful of disheartened and inactive bees were found scattered over rotten and stinking combs, and upon these we were to exercise our abilities, and prove the efficiency of our means of cure! The hive and its contents having been brought into a room with but one window, we again surveyed the disgusting rotten combs, and at once decided upon our mode of action. Had we been called upon to effect a cure three weeks before, it would have required only ordinary means, but in the present wretched condition of the hive we must resort to extraordinary measures in order to be certain of effecting a cure. We therefore took the combs from the infected hive and put them into a reserve hive, sweeping all the remaining bees on to a cloth spread in front of the entrance to the latter. We then threw various doses of powder of our own composition on red hot coals, held the infected hive over it, and let the developed gases act upon it during five minutes. These gases penetrated through the crown-board where it had been cemented by the bees, as well as through the material of which it was made, so that a bystander exclaimed, "Law! what a powerful remedy!" We then took from different bottles such fluids as we deemed most appropriate, and with a syringe sprinkled them all over the interior of the hive, into which we put frames with old comb foundations, swept the bees from the foul combs into it by means of a small brush, and finally added to them the clusters of bees which had formed against the window. The whole business occupied but a short time, and ere half an hour had elapsed the bees were returned to, and were in full flight upon, their stand, which in order to prevent infection was placed in a garden half an hour's walk from Brunswick, close to a hedge which bordered an open field.

On the 15th of July we inspected the cured hive (we live at four hours' walk—*i.e.*, 16 miles—from the place), for the first time, and what did we then see? The bees were clustering on the alighting-board, drone-combs and worker cells were filled with beautiful sealed brood, whilst on their edges were royal cells just ready for closing. The first swarm would have flown off in a few days. We now inspected all the cells, and were just going to give vent to our joy, when in the last comb we found two cells, the contents of which proved clearly that the pest had not yet entirely disappeared. We therefore at once resorted to a little after-cure, and again took leave of our child of trouble and pains. On the 27th of July we were at length invited by the Commissioners to view the hive. We went to the spot, and began the inspection, whilst twelve eyes scrutinised combs and cells, drone-combs and queen-cells, which latter had been excised by Mr. Gravenhorst to prevent swarming, but which had now been renewed in readiness for swarming as before. But we leave it to the report of the Commissioners to describe what they saw:—

"Brunswick, 27th July, 1869.

"This afternoon about four o'clock, the Examining Commission visited the experimental hive. Each comb was taken separately and examined twice over, and in order to do this more thoroughly the bees were swept off and each separate cell examined. We found the stock, to the best of our knowledge, strong and ready for swarming—royal cells about to be sealed over—and the whole colony in such excellent condition that we cannot but declare the hive completely and entirely cured of virulent foul brood.

"(Signed) "C. J. H. GRAVENHORST,
"HEINRICH OPPERMANN,
"H. HERBST
"H. WIEDENWROTH."

Foul brood, therefore, has no longer its former terrors for bee-keepers. He who is afflicted by it can free himself from it, whilst he who has been spared may stand armed and prepared if it should approach him. The means of completely curing foul brood, of keeping it from the apiary, of rendering infected honey again fit for bee-food, of at once freeing the pest from its contagious character, &c., will be published in a pamphlet by subscription. It will be printed in English, and if you find in England five hundred subscribers its price will be four thalers (12*s*.). Subscriptions are received by Mr. Gravenhorst, Brunswick, for North Germany; and by Mr. Woodbury, Mount Radford, Exeter.—A. Lambrecht, *Bornum, near Börssum, Brunswick*.

We are indebted to an esteemed correspondent for the following additional particulars of this interesting and important experiment:—

"Mr. Gravenhorst particularly requested that the means of cure should not be applied on the 23rd of May, but be post-

poned to the 17th of June, in order, first, to be more certain of the presence of virulent foul brood; second, that foul brood might reach its highest possible point of development, so as to test the process as severely as might be. Scarcely a day passed in the interval when some bee-keeper did not visit Mr. Gravenhorst, and one and all declared that there was no mistaking the presence of foul brood. To convince himself still further, Mr. Gravenhorst procured from a friend suffering from foul brood two pieces of comb and compared them most carefully, and found precisely the same appearances and smell in each. On the 17th of June Mr. Lambrecht was sent for to exercise his skill. When he saw the state of the stock, he at once said that it was a case requiring extraordinary means, and that whereas a fortnight sooner it would have been a simple matter to cure it, the case was now very different. The stock was brought into a room, the process gone through, and in about half an hour the bees were once more in the same hive in their previous situation.

"In the beginning of July Mr. Gravenhorst was visited by another well-known German bee-keeper, and in company with him examined the stock, and they found one foul-broody cell. On the 8th of July some members of the Committee discovered three or four cells in the same state, and Mr. Lambrecht was communicated with, and on the 15th of July again applied his remedy. At this date, however, the stock had nearly recovered itself; there was abundance of brood, and from twelve to fifteen royal cells. For fear of swarming, the latter together with the drone brood were removed, and the same process was repeated on the 27th.

"The above is Mr. Gravenhorst's account. He goes on to say, that at first, like Dzierzon and von Berlepsch, he was an opponent of Lambrecht's theory; but being unacquainted with chemistry, or the manner of conducting microscopical investigations, he could only speak as a practical man, and say that if proved by facts he should be satisfied; and, he adds, facts have spoken. The stock was thoroughly healthy, was fed with fermenting pollen and honey, became foul-broody, and is once more, after being subjected to the Lambrecht process, as sound as ever.

"As, he adds, a practical bee-keeper will not care whose a theory may be, whether Lambrecht's, or Preuss's, or Dzierzon's, &c.; if he has foul brood amongst his bees he will be perfectly satisfied with a means of curing it; and he ends by declaring that he and those who saw the stock are satisfied with the process used by Mr. Lambrecht."

REMOVING A LIGURIAN QUEEN.

On the 11th of April I received a hive of Italian bees from Mr. Woodbury, and on the 4th of July took an artificial swarm, which, although rather late, was a very good one. The old hive I removed a few paces off in the manner described; the swarm, although only three weeks old, was working well in a super, and during the very hot weather in June or July, I found the combs had fallen from their frames, and presented nothing but confusion. The old hive up to this time had shown no signs of breeding, and on examining the combs I could not find a queen, nor a single grub. I therefore resolved upon giving back the old queen, thinking the swarm (after having the combs which had fallen removed) would hatch another queen. This I did on August 1st, and on the 4th liberated her majesty—when to my unspeakable sorrow she was brought out dead in five minutes. I have examined the hive twice since that time, and neither time could I discover either queen or brood.

The bees have wonderfully degenerated, but not wholly left off pollen-gathering; they bring home very little; of honey there is at a guess, 40 or 50 lbs. weight. Well, to-day I had another search before uniting them to a black stock, and judge my surprise when I found a princess, with ragged wings, dark abdomen (nearly black), and more like an old worn-out worker than anything else; but undoubtedly a princess. There are very few drones left in the hive. Now what shall I do? Is it too late for fertilisation, or shall I wait another week or two? The swarm hatched a queen, and although there is not yet any signs of brood, still the bees carry pollen freely, and I do not apprehend two sterile queens.—Highgate.

P.S.—I find that by transposing, the black bees receive the Italians peacefully, but have always lost the black bees when trying to strengthen the Italians.

[The hive containing the artificial swarm could not have been properly sheltered from the sun, hence the collapse and fall of its combs. It was, of course, a mistake in any case to transfer the original Ligurian queen, but the presence of the ragged-winged princess doubtless rendered the catastrophe more certain. We should get rid of the latter at all events, and we advise your communicating with Mr. Woodbury, who, we doubt not, will be willing to assist you.]

OUR LETTER BOX.

Chickens Dying (*E. F. W.*).—There is probably some fault in your feeding, as there is no reason why your chickens should die at this time of year. Feed them on bread soaked in milk, dough made of oat or barley-meal. Let them have a grass run, and be well supplied with dust or road grit, also with pure spring water. Keep the hens under the rip till the chickens are seven weeks old. If you do this, we do not believe they will die. You may add to the dietary given above, the knuckle of a leg or shoulder of mutton, cooked and chopped fine. (*C. B. M.*).—Your food is hardly good enough for very young chickens, but it is quite enough to support life, and they should not therefore die. We believe your mistake has been you let the hen out too soon. We never allow our hens their liberty till the chicks are six weeks old, and in the winter use them in confinement longer. We are not very friendly to wheat for small chickens, we prefer barley, but we also give chopped egg; we mix our meal with milk; we also give cooked meat chopped fine. The rips in which the hens are kept should be daily changed in place, so that there is always a fresh roost, and taint is avoided. They want more care and feeding between a fortnight and a month old, than at any other time. Provide them with dust.

Fowls Roosting over an Oven (*Northern Subscriber*).—We should be disposed to attribute the snuffling, which is catarrh or incipient roup, to roosting over the heated oven. All such heat is injurious to poultry. We have enough of change in our climate without inventing any. As we read your query, the fowls also have a roosting place with a brick floor. Nothing can be worse. Find some place where they can roost without artificial heat, and where there is a floor they can scratch upon. If you can do this, all the medicine they will want for a few days will be a stimulant in the shape of toasted bread steeped in strong ale. The heated roosting would be more dangerous in winter than now.

Fowls Suffering from Catarrh (*Constant Reader*).—Your fowls are suffering from very severe cold. It is common at present, and not to be wondered at with frosty nights and unusually hot days. Improve the feeding a little, and while the discharge lasts give two doses daily at the longest intervals, of bread soaked in strong ale.

Game Bantams (*T. M.*).—The cock should be dubbed for exhibition purposes.

Trimming—Names of Judges (*Revd. G. J. Milner*).—The memorial, we believe, was sent to the Committees. The judges' names are pre-published by some Committees; but there are objections to, as well as reasons for, the practice.

Jacobin Pigeons (*Amateur Pigeon Fancier*).—The points of a Jacobin show Pigeon are as follows:—A short beak, the shorter the better; head, tail, flight, rump, and thighs pure white; eye clear pearl; hood compact and long, also the chain; size of the bird small; plumage rich and good, not washed out. The white of the head should not extend below the beak. Shape a little long but neat and elegant. Feed well and wash clean for exhibition.

Introducing a Queen to Hive Containing a Fertile Worker (*J. C.*).—It is too great a risk to attempt the introduction of a valuable queen to a stock in which a fertile worker may be presumed to exist. We should drive and unite to it the inhabitants of a condemned hive.

Removing a Partly-filled Bell-glass (*E. M. M.*).—It should be taken off at all events; and we should appropriate its contents, which cannot but deteriorate by keeping.

Uniting a Swarm and Stock (*M. J. V.*).—The bees of the swarm should be driven into the same hive as those from the old stock as soon as the expulsion of the latter is completed. They will fraternise amicably, and little or no confusion is likely to arise even if they are left until the evening. This delay is, however, better avoided, and they may be at once inducted into their permanent domicile by being knocked out immediately in front of the furnished hive, which should be blocked up an inch or so, and stand upon a cloth spread upon the ground. As soon as nearly all are inside, it should be placed on its floor-board and returned to the old stance. Mr. Payne's plan is unfortunately liable to failure, although it is often entirely successful.

Cooking Indian Maize (*A Subscriber*).—Your maize is ripe very early. As soon as the grains give out a milky fluid when pressed, the cobs can be used. They require then about twenty minutes' boiling, but a week's further growth makes much difference in the time. The common practice is, after spreading butter and a little salt over the grains, to eat them off the cob, when the flavour is supposed to be fully realised; others pick them off with a fork at table. When older, forty-five minutes boiling are not too much.

POULTRY MARKET.—September 8.

It is very difficult to make any quotations for poultry. The supply is moderate, the weather trying, and the trade very small. There is a good average supply of Grouse. Young Partridges are scarce, except very small ones. There are large numbers of these; old ones are also very plentiful.

	s. d	s. d		s. d	s. d
Large Fowls	3 6	to 4 6	Old Grouse	1 0	to 1 6
Smaller do.	3 0	3 6	Geese	6 0	6 6
Chickens	2 0	2 3	Pigeons	0 8	0 9
Goslings	0 0	0 0	Hares	0 0	0 0
Ducks	2 0	2 3	Rabbits	1 4	1 5
Young Grouse	2 0	2 6	Wild do.	0 8	0 9

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 16—22, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
16	Th		68.4	46.9	57.6	17	37 af 5	12 af 6	41 af 4	33 af 0	10	5 17	259
17	F		68 9	44.6	56.8	17	38 5	9 6	13 5	40 1	11	5 30	260
18	S		68.2	46 6	57.4	19	40 5	7 6	40 5	44 2	12	6 0	261
19	Sun	17 Sunday after Trinity.	67.4	45.1	56.2	20	42 5	5 6	2 6	49 3	13	6 21	262
20	M		68.0	44.1	56.0	19	43 5	2 6	23 6	54 4	○	6 42	263
21	Tu	Royal Horticultural Society, Fruit, Floral,	66.3	45.4	55 8	24	45 5	0 6	42 6	59 5	15	7 3	264
22	W	[and General Meeting.	66.4	44.7	55.6	21	47 5	58 5	3 7	4 7	16	7 24	265

From observations taken near London during the last forty-two years, the average day temperature of the week is 67 7°; and its night temperature 45.3°. The greatest heat was 84°, on the 17th, 1843; and the lowest cold 29°, on the 17th, 1849. The greatest fall of rain was 0.90 inch.

GRAFTING VINES TO PROMOTE HARDINESS.

THE Editors having expressed a wish to know how my Vine grafting succeeded, as far as time will permit I report progress, but still under the impression very much has to be done in Vine culture in this most important direction.

The points kept in view are, with the aid of grafting, to avoid costly Vine houses, and fire heat as much as possible, using sun heat as best and cheapest; to place the most hardy roots in the soil, to endeavour to add to the yearly crops, and to adopt training to poles as practised in the Hop gardens of Kent. Also to improve the size of the berries and bunch, and the flavour, if possible, so that hundreds, possibly thousands, may enjoy many bunches of the queen of all fruits, who at present are excluded not only by the first great outlay, but by the annual cost which is never at an end. I am keeping in view good useful bunches of Grapes, either for the sick chamber or the daily use of a family.

The Vines are all planted inside the house, trained on the rafters only, and there are large squares of 21-oz. glass flaps to open near the ground in front, and at the back close to the ridge of the roof; doors are at each end, glazed to the ground to admit all the sun heat possible. I have only used the common soil of the garden, and no more trouble has been taken than if any other garden crop were about to be planted.

The Vines I am about to mention will only have a small stove inside the house, 4 feet from the front, just to ripen off the fruit at the end of this month, harden the wood, and expel damp and frost. While the Vines are hard at work—that is, are bringing to perfection a good crop, I refresh them with poultry dung, guano, night soil, all in solution in water, as their wants may require.

I have splendid canes, three and four to a Vine—the Vine also with a crop—16 to 20 feet long, and 2¾ inches in girth; joints from 3 to 4½ inches apart, with eyes at this time standing out from the canes like nuts. Now, as to the leaves, I request the Editors to sit in judgment on those I have sent, and pronounce opinion in "our Journal." Several of the bunches hanging will weigh 3½ and 4 lbs.; I have no insects; the lovely shining green of the foliage proves sturdy health; or, could the Vines speak, all would say, "It's just the thing."

I have to remark that after the bearing rods preparing for next year's fruiting had been stopped, one and all broke at the ends with fruit; and in four cases where an eye had burst, that also showed fruit growing out of a green cane of this year's produce. I think this is not very common. Does it not show rather an inclination to perpetual bearing in the Vine?

Lady Downe's grafted on some wild Vines from America, and on the Frankenthal, shows fruit in this way at every break.

Black Tokay, or Alicante, worked on a wild stock, is splendid. A Vine two years from the graft, with four rods 6 feet long trained to poles, showed eighty-three bunches. I have this on the Frankenthal and its own roots. I cannot speak too highly of this Vine.

Gros Guillaume on the wild stock is beautiful; it seems as yet to do better than on the Frankenthal. Permit me to advise not to plant this on its own roots; 5 and 6-lbs. bunches can be grown like Hamburghs, and it is one of the best of keepers.

West's St. Peter's is not satisfactory worked on the Black Hamburgh; I prefer it on the wild stock.

Chaouch makes splendid rods, foliage, and bunches on the wild stock.

Burchardt's Prince, grafted, is very hardy. I like this Vine much; it is a pity it is not more grown.

Foster's White Seedling is also very good under the same treatment.

Trebbiano, or Child of Hale (?), is equally satisfactory under my treatment. I note this, as it is stated in the catalogues to require strong heat. The Vine of Trebbiano has two bunches only; I cut the rest off. The two are good in shape, and will weigh when ripe about 8½ to 9 lbs.

Mrs. Pince's Black Muscat, as Mr. James Douglas observes in page 96, is not a strong grower on its own roots; in fact, I have decided not to plant it in this form. On Lady Downe's it is also doing well with me, but I like much the look of the eyes it is making grafted on Frankenthal. I have grafted it on six other stocks, waiting for advantages if any.

All the Vines I have mentioned have only been planted two years from pots.

I have many other Vines, including all the new introductions, grafted. Fancy has led me to double-work some of these. Possibly I may write at another time. All my friends who have seen the Vines expressed astonishment and admiration.

A word to "Kate," who wrote in No. 433. This house of Vines, of the two wanting more heat than Hamburghs, never was totally closed at night or by day, even during the cold of this spring. At 5 A.M. the thermometer several times stood at 34°, while all the Vines named showed fruit, and they set so well that more than one-half of the berries had to be cut out, and many bunches totally cut off. Another house of Vines, all grafted, will shortly be erected; of the results I may hereafter write.—R. M. W., *Mount Pisgah, near Sheffield.*

[Judging from the specimens sent, your Vines are in wonderful health and vigour. The leaves are perfectly glossy on the upper surface, and their texture is like leather. We shall be obliged by further reports of your results.—Eds.]

AMONG THE ROSES.

Thanks, many thanks, "D," of Deal, for reminding us amateurs, who love the Rose, of the duty which we owe one another. Well may you ask, "Why do not some of our amateur growers give us their experience of the different varieties, mentioning their soils and situations," in order that others may profit thereby? For myself I am heartily ashamed that so many months have elapsed since I occupied a corner of "our Journal" with matters respect-

ing the flower I love so well. I suspect the reason why so few contribute their experience—and the experience of others is useful to the best of us—is the same as that which keeps many good cultivators from competing at our shows—viz., the fear lest what little they can do is sure to be excelled by the doings of others who enter the lists. We all know the results—in the one case a few bold exhibitors carrying off all the prizes from want of a healthy competition; in the other, an eager and earnest seeking, week by week, after Rose articles, and the inevitable disappointment.

What a fortunate rosarian is he whose habitation is upon a Rose soil! Nearly three years ago I came into Warwickshire, and became the tenant of a newly-built house. The garden had never been cultivated, save as a portion of a field; it was full of large and small stones, and so deveid of fertility that hardly anything would grow therein; sand and gravel could be obtained, and can now, at a depth of 2 feet; in fine, it was a sandy waste, only fit for the growth of Potatoes. During my first summer, therefore, my Roses did no good, especially as I possessed nothing but standards, which should be almost entirely discarded from sandy soils. Last year I began with Roses on their own roots and on the Manetti stock, which I planted in well, though freshly, manured ground. A great improvement was the result, even the standards showing their gratitude for the better feeding. During the spring and summer I accumulated a couple of tons of horse manure, which I used for Vegetable Marrows, and in November last, when well rotted, I dug it deeply into my Rose beds, and as I transplanted nearly the whole of my stock I took particular care that the manure should be under as well as around the roots. And what a reward I have had! Since the beginning of May, in spite of the unfavourable weather of the spring, vigorous growth, clean foliage, fine buds, and noble blooms have been the rule, and afforded proof that the disadvantages of a wretchedly poor soil and exposed site (for we are very bleak), may be ameliorated.

Although my standards have done well this season, the Manetti-stocked Roses have done so much better as to make me a convert to the new faith—that the Briar must soon become a thing of the past so far as the true rosarian is concerned. I can understand the repugnance which many old cultivators will have against changing their creed; but I would respectfully submit that although they should not be

"The first by whom the new is tried,"

neither should they be

"The last to cast the old aside,"

for, depend upon it, the Briar is doomed.

Luckily for me, I purchased in November last a lot of Roses on the Manetti stock, and among them was Monsieur Noman. It has delighted me as much as did Alfred Colomb last year at our Birmingham show. Was ever such a pink Rose seen? Your readers will remember the spell which Marie Baumann cast over the Rev. Mr. Radclyffe—how he returned to it time after time with the ardour of a devoted lover; and of such a nature was the fascination which glorious Monsieur Noman exercised over me. I was never tired of looking at its splendid form, and colour, and size, and bringing others to drink of the intoxicating cup. I am afraid, however, that its great beauty departs in the early summer, for I have had no such blooms since. And Alfred Colomb, too—where is its equal for brightness, clearness, and form? It is a class in itself, and, like Charles Lefebvre, will live for ever. Talking about the latter, I must not forget to say that it has done as well with me on a standard as on the Manetti. Perhaps there is no better Rose than this is for all general purposes. Another of my loves is Anna de Diesbach, which was the universal favourite at my house. Even my little children would arrest their gambols to point it out to one another; and a reverend friend of ours was so enchanted with it, that he could only be brought back to his usual frame of mind by my promising that he should possess a similar Rose before Father Christmas paid us another visit. I have been quite disappointed with Charles Rouillard, which does not open well with me, nor does it show any distinct colour. I imagine it requires a stiff soil to bring out the qualities which attract one in the catalogues.

Talking about catalogues, I look in vain for two great favourites of mine—Roses not for exhibition, but to be tenderly regarded in one's own garden. I allude to Queen of the City and Armide. The former grows finely, is compact, well built up, and of a pretty shade of pink. The latter, though rather—only rather—flat, is a charming flower, a free bloomer, and of a rich salmon tint; its foliage is unique, and nearly always keeps in good condition.

Climbing Devoniensis does well; its growth is surprisingly vigorous, its flowers fairly good, and its perfume delicious. Everyone should have this who likes a climber. Will the Comtesse de Jaucourt turn out first or third-class? It has grown and bloomed capitally, yet I cannot become enthusiastic about it. I know those who think it perfection. Another glorious Rose for a soil like mine is Dr. Andry, which has gratified me beyond measure. Do all your readers grow General Washington? If not, let those who wish to have the finest and most brilliant of the autumn bloomers order it at once. Even on a cutting struck last year it has given me a flower to be proud of. Vicomtesse de Vézins is a pink General Washington, and worth a place in every rosery. Elie Morel will turn out a first-class Rose; it is large, has a perfect form, with a charming disposition of its petals. A neighbour of mine has grown such a prodigy on a plant of Hippolyte Flandrin as I never saw before. It is certainly a prime exhibition Rose, though I am of opinion it will require very high feeding. Duchesse de Caylus is a Rose of exquisite form and of fine colour, and it also blooms abundantly; the same remarks will also apply to Abel Grand, a noble Rose. Duc de Wellington is superb in its colouring, and in the duration of its bloom extraordinary; its growth is only moderate. Duc de Rohan I cannot get to bloom properly, yet it is such a fine Rose that I cannot give it up without another trial. I suppose a strong soil suits it best. One of those I could ill spare is the old Duchess of Sutherland; it does equally well on the Manetti, Briar, and on its own roots, and blooms continually and in profusion—in fact, for general good qualities it approaches Charles Lefebvre.

To those who are fond of purples, let me recommend Lady Suffield, which has a luxuriant growth, fine foliage, and large, well-shaped blooms. Madame Fillion, a salmon colour, is a little gem. Marguerite Dombrain suits a light soil, and it is, moreover, a Rose which must be in every collection. Another Margaret—her of St. Amand, I regret to say will not repay me for the trouble which I take to obtain blooms. However, I will give another trial before discarding a Rose which appears in every exhibitor's box. Can anybody speak from experience about Napoléon III.? It grows well enough, though I do not admire the foliage, which is too much like that of the Briar itself; yet for two seasons I have been unable to obtain a single bloom, or even a bud. William Griffiths, although very stiff in its growth, and inclining to raggedness, always bears a first-class flower, which endures for a longer time than any other in my garden. It does well on the Briar.—C. W. M., *Wylde Green*.

PROTECTING GRAPES FROM WASPS.

I have been for several years very much plagued with wasps eating my Grapes. Netting over the ventilators is of little or no use, as my house is old, and consequently there are many little crevices which the wasps soon find out. This year I was recommended by a friend to try tissue paper, and I may say with perfect success, as not a bunch has been touched since it has been put on. It is simple and cheap, and the paper will last for several years if care be taken of it. The way I use it is to take a sheet, or half a sheet, according to the size of the bunch, place it round the bunch, doubling the edges together, and tie it at the top and bottom with a piece of bast. This forms an effectual barrier, and if put on with care, the bloom is very little injured. If the paper be put on when the Grapes are only partly coloured, it does not prevent them from colouring beautifully. I certainly prefer it to muslin.

In a gentleman's garden I saw a more easily applied remedy, but more costly, at first at any rate—namely, an oval, fine wire gauze covering, with a hinge in the centre, a slight catch for a fastening on the opposite side, and a small notch in the top; this was opened and the bunch clasped inside, the shoulder of the bunch holding up the covering. This was of French manufacture. Is it made in England? I understand that bunches kept thus are not liable to damp and mould. Perhaps some of your correspondents have tried them, and can tell if it is the case.—W.

WELLINGTONIA GIGANTEA.

Having read Mr. Robson's remarks, in page 168, on the Wellingtonia, I feel pleasure in stating I have under my care several specimens of this magnificent tree in the most robust

health, and perfect in shape. One is 20 feet in height, 46 feet in the circumference of the branches, and 5 feet 6 inches in that of the trunk, and is a very handsome tree. I hope this favourite tree will retain its position in our parks and pleasure grounds.

I also wish to ask the question, If a plant of Cupressus Lambertiana measuring 39 feet high and 30 feet through the branches, exceeds the usual size?—W. Mayo, *Gardener, Shalstone House, Buckingham.*

APPLICATION OF MANURES.

I see one of your correspondents lays great stress on the necessity of covering manure as soon after it is spread as possible, to prevent its being injured by sun and wind. Many years ago I wrote a paper attacking this mischievous notion, and I think it was published in "our Journal." I call it mischievous, not only because it is erroneous, but because it leads to injurious practice.

I have acres of land now covered with manure as dry as wind and sun can make it, and, of course, according to many persons' ideas such manure is worth but little. If in my place, they would prefer seeing it in an open yard exposed to every shower, or in a heap losing bulk every day, and when rain comes and their land is wet they would cart it on to the ground, spread it, and plough it in immediately. Now, I prefer carting on land when it is dry; when rain comes to soften the land I am glad to be able to set the ploughs to work at once, and am glad the land is already manured. But is not your manure spoilt? some will ask; I would ask, How? What has it lost? Spread evenly over the surface there has been no fermentation, and, consequently, no ammonia has been formed. What has it lost besides water? If the manure is intended to grow a summer crop in dry weather, the moisture in the manure is valuable, but not otherwise. If this very common notion of manure being injured by sun and wind be correct, then guano, the excrement of birds deposited drop by drop under a burning sun, is of no value, the top-dressing of grass land is a most wasteful process, and the manure of sheep is in a great part lost to the farm.—J. R. Pearson, *Chilwell.*

[We somewhat differ from our clever correspondent, but shall be glad to hear the opinions of others who also combine science with practice.—Eds.]

UNSEASONABLE BLOSSOMING.

When staying at Weymouth in the month of June I paid great attention to the state of the fruit crops in that neighbourhood. One day I was much amused, and not a little surprised, to see an orchard, just two miles out of the town, on the Wareham road, in full flower, all the trees, twenty-four in number, being literally a mass of bloom. I first saw it about the 16th of June, and it was not then quite in its full glory; as I passed it nearly every day I took great interest in watching its development, which it reached about the 24th, and by the end of th month had nearly all passed away. The trees appeared to me to be of different kinds, but not of those two late-blooming kinds so largely grown here for cider, the Horner and Chisel Jersey. How they may have set their fruit, or in what condition that now is, I am unable to say; but I shall ask a friend at Weymouth to visit the orchard, and let me know how the crop is, more especially as most other trees in the neighbourhood had their fruit of a considerable size at the time.

Although in many places south and west of us there is but a very poor crop of fruit generally, here we have an abundance, and of good quality. Pears, particularly upon large trees, are a heavy crop. On my young trees I have a fair lot, somewhere from 450 to 500 sorts having fruited. The Quince stocks are especially rich in fruit of fine quality, and the Apples on my Pommier de Paradis stock are a wonder to see.—J. Scott, *Merriott Nurseries, Crewkerne.*

AN ABUNDANT-FLOWERING DEVONIENSIS ROSE.

We have a plant from which we cut from 200 to 250 flowers every year. It was raised from a cutting, and planted-out at the end of a vinery facing due south, and partly sheltered from the north winds by an Orange house. The soil is sandy loam, mixed with old mortar and bricks. We sprinkle a little guano every year round the roots, and with the help of the engine once or twice a-week we keep down green fly, and preserve the plant in a very healthy state. Very little pruning is given, for as soon as the shoots push in spring we are sure there are flowers on them, but a little thinning is practised when they become too crowded.—J. H. S.

BOUQUETS AT THE MANCHESTER SHOW.

As an exhibitor of bouquets, I quite agree with Mr. W. H. Turner respecting the awards of the Judges being final, unless some fraud has been practised; but there was something radically wrong in the exhibition of the bouquets, for all the staging cards were turned topsy-turvy. I came into the tent after the Judges had altered their award from Turner to Yates. I remarked to the Rev. S. R. Hole I could not see what standard they had adopted in judging, as I had two bouquets which must have been overlooked. When he saw them he said, "These two bouquets have been smuggled in since we gave our award, or we should have given them the first prize," and he called the other Judges' attention to them to confirm his opinion, and they coincided with him.

From what I have gleaned since, I believe the Judges were right respecting the smuggling business. If they were not on the table, they were out of sight during the awards being made, and replaced after the decision. It is a pity that any feeling should exist, except an honourable rivalry, at our floral exhibitions.—J. Delamere, *Orton, Cheshire.*

MARÉCHAL NIEL ROSE—BUDDING ON GLOIRE DE DIJON.

In page 180, I see Mr. Harrison Weir has almost given up trying to grow Maréchal Niel. I hope his last attempt may prove more successful, for it is, without doubt, a gem with those who succeed in flowering it. Although I had not seen it growing, and only knew it from cut blooms at exhibitions and notes that appeared from time to time in this Journal, I determined last spring to give it a trial. I ordered two strong plants from a respectable nurseryman, but instead of being strong, they were very poor. From the weakness of the plants I knew they would not bear forcing, accordingly I plunged them in one corner of a Potato frame with a gentle bottom heat, the lights being taken off during fine days. They soon began to grow, made good plants by the end of May, but showed no signs of flowering; so I potted the strongest plant, and let it grow at full length. It has now shoots 8 feet long. The other I cut down, making six cuttings, which have all struck, and are now established plants in 6-inch pots, with strong shoots 4 feet long. One of the cuttings struck produced a flower, and it was a little gem.

After cutting down the weakest of my two plants, it was repotted in an 8-inch pot, and returned to a cold pit, where it remained about three weeks till the young shoots began to appear, when it was turned out of doors, and set among other plants in one corner of the frameyard. There it remained for some weeks, and was soon smothered with green fly, which was syringed off with soot water. Up to this point no flower-buds had appeared, and I began to think it would not flower this season; however, I was mistaken, for shortly afterwards I perceived three very small flower-buds. I removed it at once to a cold pit, where it was regularly syringed, and supplied with liquid manure at every alternate watering. It soon began to swell more buds, and has at present seven fully-expanded flowers, besides several promising buds. It is admired by all who have seen it.—E. Rooker, *The Gardens, Coton Hall.*

Mr. Harrison Weir tells us of his success and non-success. This is as it ought to be. Like him, many have had failures with that gem of Roses Maréchal Niel, and myself among the number. I know of some good plants budded on the Briar, and they produce some fine Roses. I have tried it on its own roots, grafted and budded on the Manetti stock, in pots, and in other ways, but all to no purpose; die the Maréchal would, and did. I had almost given up the hope of ever succeeding; but as I did not like to be deprived of the Maréchal's company I thought I would try him again budded on Gloire de Dijon. It proved a first-rate union, and during the past summer I have been rewarded with yellow Roses as large as Jules Margottin and of great substance, the colour being exquisite, and the

perfume all that could be desired. I think Gloire de Dijon will be a good stock for the Maréchal. I have this season budded it on Souvenir de Malmaison and other Roses. The buds have taken, but I must wait the result.—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

ROYAL HORTICULTURAL SOCIETY.

FRUIT COMMITTEE.

An adjourned meeting of this Committee was held at Chiswick on the 9th inst., when the collection of Potatoes, which was reserved from last meeting, was submitted to the Committee, after having been cooked.

Mr. Nash, Threehouseholds, near Slough, sent four varieties—White Blossom was close, waxy, and very inferior in quality; Myatt's Ashleat, very excellent; Prince of Wales boils floury, but is deficient in flavour; Early Rose boils white and floury, but has a very objectionable flavour.

Mr. Headley, of Stapleton, sent a seedling Kidney Potato of medium size and good form; when cooked it is of rather a deep yellow, very floury, and possesses an excellent flavour.

Mr. Fryer, of Chatteris, sent Rough Red, which is a fine-flavoured and floury Potato; but a great objection to it is being so deep in the eye, necessitating so much waste in peeling.

Mr. Walton, gardener to E. Pottle, Esq., sent a seedling, called Walton's Late Kidney. It is a fine-looking Potato, but was not ripe; the flavour was excellent even then.

Messrs. J. Carter & Co., Holborn, sent Early Rose Potato. These, like those sent by Mr. Nash, boiled white and floury, but they, too, had the same objectionable and disagreeable flavour. In the opinion of the Committee, this is an inferior Potato for table use.

Messrs. Stuart & Co., of Nice, sent a seedling Melon, called Triomphe de Nice—a large, round, yellow, prominently-netted, green-fleshed fruit, with great thickness of flesh, and with a rich flavour and fine aroma. It was awarded a first-class certificate.

ADULTERATION OF SEEDS BILL.

In continuation of our extract respecting garden seeds from the blue book relative to this Bill, we give this week the

EVIDENCE OF MR. DANIEL NASH.

Mr. Shaw-Lefevre.—You are a partner in the firm of Minier, Nash, & Nash, seedsmen of London?—Yes, of the Strand.

Have you for many years been engaged in the seed trade?—Yes, upwards of forty years.

Has your business been mostly of a wholesale character?—Mostly wholesale; but we have done retail.

And you have paid some attention to the question now before the Committee?—Yes, I have given it the best attention in my power.

And in the end of June last you presented a memorial to the Board of Trade against certain clauses of this Bill?—I did, inasmuch as I thought that the form of the Bill was such that it would create the utmost possible confusion in the trade, and that there would be an enormous amount of difficulty in any person wanting to swear that such-and-such seeds had a proportion of adulterated seed amongst them, although if you were to see a sample, in bulk, of killed Turnip seed, or adulterated Clover seed, you would say, "Yes, that is adulterated."

I apprehend that what you wish to say is this, as regards adulteration, that though in bulk it is very easy to tell whether the seeds have been doctored or have been killed by the process that we have heard of, yet, when the killed seeds are mixed in small quantities with genuine seeds, it is exceedingly difficult to tell their presence?—I would hardly say that it is easy to tell it in bulk: in some kinds they do it so nicely: I consider that in some cases it is almost impossible for a person to say on examination whether there is seed which has been killed to represent Turnip seed, or coloured Trefoil to represent Clover; when it is mixed in the bulk in the small proportion that is put in, I think it would be impossible for any one to go into the witness-box and swear that there was any killed or coloured seed.

You consider that if the Bill passed in its present form there would be considerable danger of injustice to the sellers of seeds on the ground that complaints would be trumped up against them, and charges produced without just cause?—Yes: it was on those grounds that I took the liberty of writing a letter to the Board of Trade stating that I thought I might give some hints that would make the Bill more effective; I was particularly anxious to have a Bill for doing away with the adulteration of seeds; it was done, no doubt, originally, to get something like a fair average growth, for seeds vary very much in one year as compared with another: I have known the germinating power of them to be in one year 40, and the next year 80 per cent.

You are now speaking of the process of mixing old and new seeds together?—I am speaking of mixing killed seeds particularly: I do not think it is possible for a man to say with certainty that the seed is adulterated with killed or coloured seed.

You agree with previous witnesses, that the custom of mixing killed seeds has existed of late years to some extent?—Yes.

In your opinion, is the practice as prevalent as it was or not?—I do not think it is; I think that there has been a general improvement in the trade, and I think that now, though there are cheap sellers, no doubt, as in all trades, if you take the great bulk of the trade, seeds are sent out now in the ordinary way very much better than they were twenty years ago.

Have you found any difficulty yourself in buying pure samples of seed?—We have our seeds grown for us expressly.

I think you grow them under contract?—We grow them by contract; I do not do much in Clover seed; I sell pounds where some of the large Borough houses would sell tons: that is their trade.

Do you deal in Turnip seed largely?—Very largely.

Then you can speak with reference to that class of seed?—Yes; and I think there is considerable difficulty in saying, and it would be almost an impossibility to say, that such-and-such seed was adulterated with killed seed; killed seed and old seed come so close.

Has there been, in your knowledge, a considerable mixture of old seed with recent genuine seed for the purpose of adulteration?—I will not say that it is for the purpose of adulteration; but it is a common practice to mix old seed with new seed; and for this reason, that we cannot get an average growth without resorting very frequently to the seed of the previous year, or the year before that.

Therefore, in consequence of that, in a bad harvest, you are obliged to mix one-year-old, or two-year-old, seed with the new seed for the purpose of increasing the average, and, I suppose, sometimes you reduce the average by the same process?—Yes, that is precisely the way in which the thing got into use at first: our invariable practice is to test the growth of any seed of any importance when it comes in, and if the seed is beyond what you may call a fair average growth of its year, then you bring it down.

By mixing with it old seed?—By mixing with it either old seed or killed seed, as the case may be; but if, on the contrary, it is below what you consider the average, you resort to the seed which you have in hand; if we have had two consecutive bad years for Carrot seed, say, as you cannot make Carrot seed, or buy it, you must take it as it comes; then it is the custom of the trade to say that it would be necessary to sow such-and-such a seed "thicker than usual," or "much thicker than usual;" the great object of the trade is to keep their seeds as nearly as they can at one average growth.

Can you tell us what that average growth is?—It varies very much in different varieties.

Take the case of Turnip?—It will grow from 80 to 90 per cent.

Mr. Pell.—Is that Swede?—Swede or White Turnip; taking the average of seven years, I think that Onions at the extreme would not grow more than 60 per cent.; we endeavour to get that. Take the case of Broccoli and Cabbage; they come about the same as Turnip seed, not quite so much; then look at Cauliflower, that is an article that ripens very late, generally in the month of September. Last year Cauliflower up to the month of August looked one of the most promising crops I ever knew, but whether from heat or drought that seed generally collapsed, and what little was saved was of such inferior growth that it was good for nothing virtually; you have to take that, therefore, off your average of seven years: I say that Cauliflower will not average 50 per cent.; Mr. Murray said that different seeds varied very much in their growth, and there is no doubt of that.

Then I understand from you that it has been the custom of your trade to mix the seeds of several years together in order to produce an average germinating power?—Yes.

And that in some cases that has been arrived at by mixing killed seeds with genuine seeds?—Yes.

But you think that that process is not carried out to the same extent as it used to be?—I think that, taking the larger amount of seed sold there is no doubt that there is a larger quantity of seed killed, but then the increase in the sale of Turnip and Mangold Wurtzel seed has been enormous for the last twenty years.

Do you think that the average standard of germinating power during the last few years has been lowered or not?—I think it has been increased.

Then you signed this memorial to the Board of Trade on the ground that you considered that the Bill, as it now stands, would subject the sellers of the seeds to possible persecution?—I did. Might I be allowed to state that, in the first instance, I had drawn out that memorial, and intended only to strike out clauses 1 and 5, and have nothing to do with the importation of seed, but I conversed with some gentlemen at Mark Lane one Monday, the very gentlemen who have their names down as Promoters of the Bill, and who have since said that they signed that memorial under a certain restraint as it were, and I put that clause referring to importing killed or dyed seeds in, in order to meet their objections as far as I could, not that I thought it of much value; I wished to do away with the killing of seeds.

You wished to confine the Bill to the prevention of killing?—Yes, killing and dyeing.

And not to touch the seller of seeds, on the ground that it would not be possible in evidence to prove with certainty whether killed seed or naturally dead seed had been mixed in the sample?—That is precisely what I wish to state.

Dr. Playfair.—What is the great advantage of obtaining an average?—That farmers and market gardeners should have no difficulty in getting what you may term an average crop.

Do the farmers attach very much value to that average?—I do not suppose that they even know it.

Supposing that there is a great advantage in obtaining that average,

where is the disadvantage in the employment of killed seed to produce that average?—I do not think there is any disadvantage whatever.

Then why would you legislate against killed seed and not legislate against reducing the average by old or naturally dead seed?—I do not think that that is in the clause at all.

This clause is confined to killed seed?—Yes.

But where is the disadvantage to the farmer if he wishes to produce a general average of using the killed seed for that purpose?—It is a disagreeable practice, no doubt of it, although it is attended with convenience; I myself detest it.

What is the difference to the farmer between using killed seed to reduce seed of 90 per cent. to 75 per cent., and using old seed to reduce it to 75 per cent.?—No difference.

Then if the killed seed produce no disadvantage to the farmer, why legislate against it?—I consider it to be a disagreeable practice, and I would rather see it done away with.

But you would still, as a seedsman, allow yourself to mix bad seed with good, to reduce it to an average?—I would not say bad seed, but old seed; there are individuals who wish to sell, and parties who wish to buy cheap, and below what you may call a fair market price, and it gives these parties an opportunity, by reducing that seed, instead of sending it out at 75, to send it out at 50 per cent.; I want to put a stop to that kind of thing, and to have the trade carried on in a more legitimate way.

Would you have an objection to warranting the standard of germinating power with regard to different seeds?—I do not think it can be carried out; so much depends on those who test seed, the soil it is tried in, and the attention that is paid to it. If a man puts a little too much water, it may turn some seeds into a jelly. It is men, whose business it is to try these seeds, who will do it with accuracy; it may answer all the purposes which a farmer may require to put the seed in a flower pot, and I wish that every farmer would do so.

To whose advantage is this Act to be, to that of the farmer or to that of the seller of the seed?—I do not know that it is a particular advantage to either one or the other: I believe one thing, that the farmer gets now regularity of crops; I believe that under a different system, in some seasons, when there have been two successive failures, he would get a very inferior growth; he does not pay for his seed now what he would do if he had it to grow 100 per cent.

But will he derive any more advantage if an Act is passed to prevent killed seed being used for the purpose of reduction, than he does now, because you may use inferior seed for the purposes of reduction, may you not?—You may do it, certainly.

We are supposing that this Act is for the benefit of the farmer, do you see any likelihood of the farmer obtaining any such advantage?—I think it would be decidedly in his favour; that he would get seed of a larger growth than he does now, upon an average.

But I thought you said the object of seed-sellers was to reduce the seed to a general average by mixing the seed?—That is the object, no doubt; the farmer would otherwise get for two or three years consecutively, perhaps, a good growth, and then for two or three years a bad growth.

Do you think that he would get true net seed, unmixed with inferior seed, if this Act were passed?—I think that he would get old seed mixed with the newer.

Seed producing a general average?—Yes.

Then I do not see where the farmer is to obtain much advantage?—Not a very considerable advantage, I do not think he would; I say that the practice of using killed seed is a nasty practice.

But does the killed seed in the slightest degree interfere with the vitality of the other seed?—Not in the slightest.

Where then is the disadvantage to the farmer of getting the same average by killed seed as by seed of an inferior growth, supposing you reduce it to 75 per cent. in both cases?—There is not the slightest difference.

Mr. Cross.—You sell both wholesale and retail?—I do.

Do you ever sell seeds, what they call net?—Yes.

When is it you sell seeds net?—Where they inquire of the travellers for it. It is well known that seeds are sent out in the ordinary way, what you may term a fair average growth, and of course every man who has been in the trade knows that in some years seeds will grow much better than in others, and he trusts to the seedsman he deals with to send him a fair average quality; but if that man had stock on hand below an average growth, he would say "Mr. Nash, will you send me an extra quality, and I will pay an extra price for it?"

When the retail dealer has some old seed he wants to improve, he asks for net seed?—Yes.

But do you ever sell net seed under any circumstances as net seed?—Not unless they pay a different price.

Do you ever sell net seed to a retail man?—Yes.

If I were to write up from the country for Turnip seed, would you send me net or adulterated?—I would send net as a rule; I might not send you all new seed.

But no killed seed?—No killed seed; it is always net seed in Turnip seed that we send out to private gentlemen.

But not to the retail dealer?—No.

But why am I not to have the benefit, as a private gentleman, of the average growth, as well as the farmer?—You would have it.

Then (to put it in another way) why should not the farmer have the same benefit of average growth as I have?—If the farmer applied to me he would get it; but the farmer does not apply to me.

Will you tell me where is the injustice you speak of in this Bill; you say that it would be unjust, do you not?—Unjust with regard to charges that might be made against individuals for selling seed that was adulterated.

Supposing a charge was made, and the case not made out, what injury would happen then?—You cannot go before a magistrate without having your name paraded in the country newspapers; and people naturally say, "Where there is smoke there is fire," and it would be exceedingly annoying to be taken down to Cornwall, say, with your books, to prove that that seed was as you imported it.

You would rather keep away from the magistrate altogether?—Yes.

You say that your great object in the seed trade is to give a fair average growth?—Yes.

In Turnip seed you put that at 80 and 90 per cent.?—Taking this year I should question if it would come to that.

At all events your object is to put it down to the very minimum average growth, that is to say, to make it as much adulterated as you can?—You can more easily do that than the other way; you can carry on your business more conveniently in that way; you cannot increase your growth, but you can decrease it.

Supposing that there is an increase of growth in any one year, does not that make a difference in the mixture you put in?—Yes.

But if there were a small quantity of good growth in one year you would still adulterate it, in order to meet the demand?—If there were a small quantity of good seed, you would have to spread it all over the country.

But it would never enter your head to say that the growth of seed was so small one year that you could not meet the demand?—Yes; if all new seed was required, sometimes, if you were to give gold, you could not have it.

Do you, as a matter of practice, ever give out that you have no seed?—No; because I can generally get it from a trader if I have not got it myself.

If there is a deficiency in the growth of one year, is it not the practice of the trade to make it more plentiful by reducing it with the seed of old years?—No, that has not been so to my knowledge, because of seed that will grow for three or four years there is generally a pretty good stock.

Now, you stated that you wanted to mend this Bill. Will you tell us how you want to mend the Bill?—The memorial which I drew out, and which has been read to you, expresses my view; I gave to each party who attended the meeting a copy of it. I want to make clause 7 run thus:—"Whosoever shall be convicted of killing or dyeing seed, or knowingly shall import killed or dyed seed, shall for every such offence," &c.

All you want to affect by the Bill is the actual killing of the seed, or dyeing it, or importing killed or dyed seed?—Yes.

Dr. Lyon Playfair has asked you several questions on this point, why is it better for the farmer that killed seed should be prohibited than old worthless seed. Can you say why?—I do not think that it would be any better.

But you have also said that if killed seed were not allowed to be used, old seed would certainly be used, in order to keep up the average growth?—It would, so long as old seed existed.

Then I want to know, as Dr. Lyon Playfair wanted to know, what would be the benefit which the farmer would get from killed seed being prohibited?—Between using killed and old seed, I do not think that there would be any benefit at first.

When would he get benefit?—Perhaps some years hence, when the old stock is exhausted.

In your opinion there is a great quantity of old seed still in the country?—Of some sorts; I think that there is a very small stock of Turnip seed; of other seeds there is a relatively large stock.

And in your opinion it is just as injurious to the farmer to have this old worthless seed mixed up as killed seed?—Yes.

Do not you think, therefore, that in the first clause of this Bill words should be introduced to prohibit the mixing of old worthless seed, as well as killed seed?—Where are you to draw the line?

Old worthless seed, practically dead seed, I mean?—Well, I do not think you would get such a thing; they will not allow it to get dead.

Inferior seed, seed of 5 or 10 or 15 per cent. growth?—There is virtually no great difference whether a man uses that or uses killed seed.

Dr. Playfair.—Is it not a fact that the qualities of seed are continually varying according to the harvest, and the climate, and the conditions of growth?—Undoubtedly so.

Then is it not the fact that there will always be inferior seed which you can use to mix with the superior seed? It is not the question of using up of old stock, but is it not the fact that inferior seed will constantly be grown under varying conditions of climate and of harvest?—Undoubtedly.

Then the farmer still might have the seed, whether for his benefit or not, reduced to an average by that inferior seed being used to mix with the superior, even though the old stock were exhausted?—Yes.

And different places in the same year may produce seeds of different growth?—Yes, more especially upon heavy lands; last year upon heavy lands Onion seed grew better than I ever knew it in my life, 90 and 95 per cent. This year, in all probability, the seed will not ripen till the month of October, when we often get autumn frost, and it may not grow 26 per cent.

And you would use that seed to mix with the higher quality?—We should use the last year's growth to mix with that if we could do it.

Mr. Cross.—If I, as a private gentleman, were to write to you an order for Turnip seed I should get net seed, I understand you to say?—Yes, at least, no killed seed with it.

If I were to write to an ordinary seedsman in the same town specifying that I wanted some of your seed, I should get mixed seed?—Most probably.

Dr. Playfair.—Your interpretation of net seed is not seed of that year's growth, but unadulterated seed of a certain average?—I would not say of a certain average.

It may be superior mixed with inferior, or inferior mixed with superior?—Yes.

Mr. Cross.—But I should get a different class of seed if I went to you direct from what I should get if I went to one of your retail customers?—You might for one year, but I do not think that you would for seven years together.

Dr. Playfair.—Why do you take seven years?—I take seven years as a fair datum to go upon, but you might take fourteen, if it were preferred.

Mr. M'Lagan.—Did I rightly understand you to say, that you do not mix to increase the germinating power of the seeds, but always to decrease it?—Most certainly not. If the seed this year is bad, and last year's seed is good, we mix to increase; we keep the best growth for that very purpose in case of a failure or depreciated growth in the next year.

You said that it was immaterial to the farmer whether killed seed or old seed was mixed to bring the growth of the seed to the average?—If a man gets seed to grow, say, 75 per cent., and if we know that for all ordinary purposes it will give him a good average crop, I cannot see what difference it makes to the farmer whether that seed is mixed with killed seed or with seed of an inferior growth.

Supposing that it is mixed with killed seed first, that seed is warranted not to grow, therefore the farmer will not expect to see a plant from it?—It is not warranted.

You do not expect that killed seed to grow?—No; I should be sorry to see it grow.

If you substitute old seed for that killed seed, that old seed may be several years of age, and as seed gets older it is longer in germination, is it not?—Not very materially.

Do you mean that three-years-old seed will germinate in the same time as one-year-old seed?—No, but two-year-old seed and three-year-old seed will not differ much in that respect.

Between ten year-old seed and two-year-old seed will there be much difference?—If you go to those long dates, you would treat it as dead altogether; you would not take into consideration the growth of that seed.

How many years would you go down to?—It would depend on how the seeds were ripened; I have known Mangold Wurtzel grow well when it was a dozen years old, and Broccoli.

If you sold new seed mixed with old seed of different years, you would have an irregular braird, would you not?—Yes.

Is not that irregular braird a disadvantage to the farmer?—It would be, possibly; but if you could have your field as level as this floor, and if you could get your drill to go in the same depth, you would get a regular braird. In the same season you may see a long row of Mangold Wurtzel without a miss in the plant, and in the same row you may also see several yards with scarcely a plant, from the drill going deeper into the soil.

Take the case of a farmer having his land in the best condition, and the weather as favourable as possible, and supposing that he sows there some of that new seed mixed with old, and after a while an irregular braird comes up, do you think that an advantage for a farmer?—I think the seedsman who knows his business will take care that he shall have seed where there is no material difference in time.

How could you do that?—There is not more than two days' difference between good Turnip seed, one, two, and three years old.

Take it seven years old?—You seldom get that.

I think you said in your evidence that you do not object at all to mixing seed of different quality?—I do not.

But what you object to is the killing of the seed; you want to do away with that?—Yes.

Supposing that this Bill should pass, and that you stamped out old seed altogether, and that you want still to reduce your germinating power of seed to a certain standard, where will you get a sufficient quantity of old seed in the country to do it?—I do not at all know; I think that when the old stock of seed was exhausted there would be an end of the matter.

Then you think that the effect of this Bill would be to do away with having large quantities of old seed on hand?—I think it will, so far as killed seed is concerned.

In fact, whether you introduce old seed or not into the Bill, you will do away with the use of old seed through doing away with killed seed?—I think that it will get used up.

And consequently you think that the effect of this Bill will be to do away with mixing altogether?—It cannot do away with it. If we were not to keep an old stock, sometimes the country would be bare.

As I understand you, there is a large quantity of killed seed mixed and sold at the present time?—Yes.

By the Bill you do away with that, and therefore you withdraw from the market a very large quantity of seed?—Yes.

That being the case, old seed would have to be substituted for a few years for that killed seed?—Yes.

And afterwards, what seed would you have for mixing?—No seed at all, it would all go away as received from the growers.

You would do away with mixing?—You might have an excess in some years; Yes. In 1868 you send out what you want to come in in 1869. You may "calculate on getting from that 24 bushels an acre," and instead of doing so you may get 40 bushels an acre. The same thing may apply in the following year. Then you get an excess for your demand.

I think you have admitted in your evidence already that there is very little stock of old Turnip seed in hand?—I think there is very little.

And consequently the passing of this Bill would do away with the mixing at all of any old seed, even with Turnip seed?—It would in a year or two.

If the Bill should pass, and killed seed should be withdrawn from the market altogether, would you still have the mixing carried on?—You must do it; you cannot carry on the trade otherwise. Very often you do not get enough seed of one year's growth, not half or a fourth enough, to supply the wants of the country.

Would you be able to arrive at your standard as easily by mixing the new seed with old seed as by mixing it with killed seed?—Yes; there would be no difficulty about that. We always have our regular test every autumn.

And how often do you test?—Always in the autumn; and if we have any doubts about it at all we test again in the spring.

That is after you have mixed the seed?—That does not follow at all; probably it is before.

Then do you test both your new seed and your old seed in the autumn and the spring?—Not always in the spring; we test them when they come in, and if there is anything we have left over, we always test that; and if there is anything doubtful in regard to our growers as to the seed tested in 1868, before we send that seed out in the spring, we have it re-tried.

Then you admit that seed is very apt to lose some germinating power in six months, that is to say, from autumn to spring?—Yes; it very often does.

Still you scarcely admit that it will lose much germinating power in the same number of years?—It depends upon how it has ripened; take late-ripening seeds, like Radish seed: I knew seed the growth of 1868 thrashed the same autumn, which grew very fair when it came in, but in the following spring it grew very badly. So much depends upon how they ripened, and fifty different things. You may get a heavy frost in the month of October: that seed does not show it very much at the time, but it does show it after you have kept it three or four or five months.

After two years have passed, and you have a supply of old seed in your stores, do you keep all the different years' growth separate?—Not always.

They become mixed after a year or two?—They become mixed of necessity in this way, that you have mixed two already, and have not sold all of that mixture.

You always have a quantity of old seeds about you?—Of some kinds.

Say of Turnip seed?—We have a very small quantity of that now.

But in previous years had you always a small quantity?—No; sometimes we had a very large stock. If the seed comes down very low, you buy two years' consumption. I once knew seed to be worth 50s. a bushel, and the next year it was bought for 7s.

Now you have admitted that you generally mix seeds to bring them to a certain standard?—Yes.

Having admitted that, do you see any difficulty in selling your seeds according to that standard; I mean in warranting them at that standard when you sell them?—I think that there is a great difficulty in that, because I would not rely upon people making a proper test.

There is your own test to put against theirs. That would be taken in evidence against their test, would it not?—I can give you no other reason than that of the difficulty of testing.

But you test yourself?—I test myself.

And you sell it according to your test?—I would not guarantee it; I could be prepared to prove that, according to my test, it grew so-and-so; but I cannot make other people bring out the same result.

Do you keep samples of all the seeds that you sell?—For a certain time.

Suppose that a complaint came in that some seeds which you had sold did not come up to the standard, would you not say that you were quite ready to test it?—Most certainly.

What difficulty, then, would there be in guaranteeing it?—That is another thing. I could not be certain that a man would use proper discretion in sowing that seed and growing it. One man will get a crop from seed, and another will get a total failure with seed out of the same bag sown on the same day. I have this from a market gardener within a fortnight with regard to Carrot seed; and that is one of the most difficult seeds we have to manage. He said that he was not going to drill it: I said, "Why not?" He said, "Because last year he had almost a total failure in that which was drilled, and just where it happened to be on the headlands and to be trodden down it came as thick as grass." He said, "If it had not been that I saw it grow, as it did, on the headlands I should have believed that all the seed which you gave me was bad."

I am supposing that you sell guaranteed seed according to your own test; would you object to that?—I could not guarantee it. How

could I guarantee it? I could only say that, according to my books, my seed would grow so-and-so; but I would not guarantee for you to make it grow. Ask any gentleman's gardener how he makes seed grow one time and not another. Give half-a-dozen people samples out of one lot of seed, and I have no hesitation in saying that you will find a difference of 10 or 15 per cent., according to the different seeds that are sown from the same sample. It is a most difficult thing, and the seed trade is one of the most difficult trades that I know.

Mr. Cogan.—Do you believe that it is difficult to distinguish artificially killed Turnip seed from Turnip seed that has become naturally dead?—I think that it is, to a great extent. Seed may get a nasty sweat on the barn floors. That is where it is more injured than in any other way; particularly where large quantities of Turnip seed are grown and they have very little barn room, that seed does get damaged more in that way than in any other. If you go to Romney Marsh, there are hundreds, and, perhaps thousands, of acres grown, and in that whole district you hardly see a barn.

By crushing, is it not possible to distinguish artificially killed seed from naturally dead seed?—I do not think that you can distinguish it with a certainty; I think that you may get a pretty fair idea of it, but not to distinguish it with certainty.

Have you tried that as a test yourself?—Yes.

Do you use it as a test of the seeds that you buy?—I cannot say that I do, for I never have any doubt of them; I not think that the growers that we deal with would be likely to have any killed seed to mix with it.

Are the seeds that you sell exclusively seeds that you buy from the growers, or do you buy killed seeds and mix them with the other seeds?—I have admitted that fact, that we do it to reduce the average sometimes.

You think that it is difficult to distinguish the artificially killed from the naturally dead?—I do; in regard to Clover seed, I may say that I am not much in the Clover seed trade, but I think that if you get a small sample of what is called Red Clover of foreign growth, a great many of those seeds are exceedingly small and scarcely any larger than Trefoil seed, and a person's eyes must be much better than mine to tell the difference; and then what man on earth can tell whether White Clover is adulterated by looking at it, when only a small per-centage of coloured is used?

Mr. Pell.—Did I rightly understand you to say that it is the practice of the trade to sell all the seed as near as possible with one average germinating power?—That is my practice, and I believe it is the practice of other houses.

And that that is done for expediency, in order that the farmer or gardener may know about what to expect from the seed that is furnished to him?—Most decidedly.

And, so far as the matter of expediency goes, you would not object to have some old or killed seed in order to reduce some very good seed down to the standard?—That is my present system.

You know something about seed-growing yourself; does not the amount of germinating seed in any sample depend very much upon the way in which the seed is dressed?—Yes.

Would it not be possible to dress inferior seed up to a sample, as well as to tone good seed down to a sample?—Not altogether.

Nearly so?—Not in an unfavourable season.

Is it not the practice in the growth of Turnip seed, that when they are dressing, there are two samples made of it—namely, the head which is the very best, and then the next quality which would have vitality in it, but not to the same amount as the head?—No; I think that you are erroneously informed there.

I have grown several hundredweight of it myself. You do not think that it could be as well dressed up?—You could not improve that by dressing 5 per cent., I should think.

I want to know whether it would not be possible by giving extra dressing to the seed in a bad year to bring it up to the standard, instead of doing what is the practice of the trade—namely, reducing the seed down to a sample?—No; it must be in a very extreme case indeed that that could occur. It could only be where seed was very much blighted; then you might, by extra dressing, bring it up to a better growth. But you can never make a bad sample grow well.

Then, putting honesty out of the question, and going to expediency and practice, it would hardly be possible, without killed seed, to sell stock that should average 75 per cent.?—I do not think it would.

What would the trade do, supposing that this Bill became law, when they were deprived of those means of bringing their seed down to a particular standard?—I think that there would be a certain amount of inconvenience; the farmer at some time would get much thicker crops than at others.

Then though you are against the morals of the practice, you think that there is some expediency in it?—There is some expediency in it.

Mr. Brand.—I understand you to say that speaking as a seed merchant, you are anxious for legislation on this question in the seed trade?—In the first instance, I did not think legislation necessary. I thought that the trade had worked very well for a great many years, and that those who sold a good article had retained their customers.

But on second thoughts you have come round to the view that it would be desirable to legislate on the subject?—The view that I take is this, that there has been so much said about it, and that so many questions might arise, that I should rather have the operation completely taken out of our hands by making it penal to kill or colour seeds.

Several questions have been asked you with regard to the interest of the farmers in this matter; I presume that the farmers are very much like other people in this respect, that when they buy an article they wish to have it genuine?—Yes.

There are two ways of toning down seed, one is by introducing killed seed, and the other by introducing old or dead seed?—Yes.

The supply of killed seed is almost without limit, is it not?—Yes.

But the supply of old seed is comparatively small?—Yes.

And you as a seed merchant, are very anxious to reduce as much as you can the supply of old seed in your warehouse, I presume?—Yes, I am.

And therefore in the course of a short time, if this Bill were passed, and the supply of killed seed were stopped, you would have very little old seed to fall back upon?—Very little.

Chairman.—I think that you were formerly a miller at Biggleswade? No, but my father was.

You yourself have been in the seed trade for forty years, you have told us?—Yes.

And for twenty-one years of that time you have been chairman of the trade association?—Yes.

Do you remember receiving a letter from Mr. Sharpe, of Sleaford, addressed to you, urging upon the trade that it was time to abandon the system of adulteration now in practice?—I do.

And I think in consequence of that a meeting of certain members of the trade was called, you being one of them?—Yes.

And his proposition was favourably entertained?—Well, we heard what he had to say.

And you agreed with him generally in the expediency of putting an end to the system of adulteration?—Not at that time.

The meeting was adjourned to lay it more generally before the trade?—The meeting was adjourned to the 22nd of June.

By way of laying his proposals before the whole of the London trade?—Yes.

And when the 22nd of June came you were the chairman of the meeting, I think?—Yes.

I think a resolution was then passed condemning the use of killed seed?—Yes; the minute of that was to this effect: "The Committee have become aware, in their investigations, that a system has been carried on which they consider prejudicial to the interests of the seed trade, and recommend that every means should be used to prevent further use of prepared seed for adulteration."

And it is very much on the proceedings of that meeting that the present Bill has been introduced into Parliament?—Well, I cannot say that: I must tell you very candidly that I have told Mr. Sharpe more than one or twice that I did not think the project would be carried out with any probability of success.

Mr. Brand.—Did you approve of that resolution to which you have referred?—Yes.

You were chairman of the meeting?—Yes.

You did not express any dissent?—It was the sense of the meeting, and I approved of it to that extent.

Chairman.—You have told us candidly that it has been your practice during the whole of the time that you have been in business, to reduce your seeds down to a certain growth?—Yes.

That is, in other words, to adulterate them?—Yes.

Have you continued that practice up to this season?—I have.

Using killed seeds, or simply inferior seeds?—Principally the lower class seed; but I have used killed seed too.

Nevertheless, I think that you told the honourable member for South-west Lancashire, that if a customer wrote to you for seed, without giving any special orders, you would send him net seed?—I said a private customer.

Then you draw a distinction between a private customer and a customer in the trade?—Yes.

If a customer in the trade had written to you, without giving special instructions, you would have sent him seed which the trade term "seed as the trade use it?"—Yes; seed of the average growth and quality.

That average being in some cases reduced by the use of killed seed?—Yes.

What should you say would be about the average which you generally used, about 75 per cent.?—About 75 for some sorts. For some sorts you cannot get that average. Mangold, I suppose, would be 100 per cent.

If the retail dealer wished to buy net seed of you, he would not get it unless he specially stated that he wished it?—No.

Are you aware whether Melon seed is ever adulterated?—It would not be worth while. All the Melon seed that you would sell would not be more than two or three pounds a-year. I can answer the question so far that I never knew it killed.

I suppose that you consider that selling to the retailer in the way in which you have mentioned is scarcely a fraud, inasmuch as it is the recognised custom of the trade, and the dealer would be able to a certain extent, by his own knowledge, to protect himself?—Unquestionably so.

Are you of opinion that the retail dealers as a rule have a sufficient knowledge to be able to distinguish pure seed from adulterated?—Only by trial; proof of growth.

And with regard to trial, they have no special advantages over the farmer or the eventual consumer of the seed?—A great number of the seedsmen who use it are nurserymen who have every advantage, hot-houses, and so on.

A great many are grocers, and ironmongers, and so on?—But that chiefly applies to the Clover trade; it does not apply so much to our trade.

You have said that you have been in the habit of mixing your seed

simply for the purpose of making it an average growth?—Yes, from no other motive whatever.

It has had nothing to do with the profit to be gained by it?—Not a bit.

We have had it stated in evidence by one witness that there is no profit to the dealer by the adulteration; and by another witness, that the profit sometimes runs up to 300 per cent. You agree with the former witness?—Most certainly. The other witness must have meant, when he spoke of 300 per cent., some little trivial thing; because, in anything like wholesale transactions, we know nothing of that per-centage. He must have meant something like Melon seed, which is worth a guinea an ounce.

Then I think I understand from your evidence, that you would be in favour of a Bill for preventing the killing of seeds only?—Killing and colouring.

But that anything beyond that you consider would create such a confusion in the trade that it would be inexpedient and inadvisable?—I think so.

I imagine that, in that answer, you are considering simply the interest of the trade, and not the interest of the public, that is to say, of the consumer?—What would be to the interest of one would almost be to the interest of the other. I think that there might be some cases where people who were disposed to be litigious, or who wanted to back out of a transaction, might take advantage of the Bill to do so; for instance, if a man bought Clover seed, and the market varied 5*s.* on a single market, as it does sometimes, he might have an opportunity of repudiating that seed by saying, "Oh, your seed is adulterated." He might buy Mustard seed of me, for instance (these seeds are generally bought by small sample in Mark Lane, of half-a-pint to a pint), and looking at it afterwards, when the price had changed, he might say, "Oh, your seed has some Charlock in it, and I shall go before a magistrate if you do not let me off the bargain, and say that it is adulterated."

Would not the introduction of a clause that the information must be laid within a certain time obviate a difficulty of that sort?—He could do it in less than a week. I have known Mustard seed vary 5*s.* on a market day.

Still, all that is in the interest of the dealer that you are now speaking of?—More in the interest of the trade than anything else.

Can it be in the interest of the public by any possibility?—I do not know that it can.

Mr. Shaw-Lefevre.—You told us that in some seeds the growth varies very much from year to year?—Yes.

And you mentioned that in Onions there was a variation from 21 per cent. to 96?—Yes.

Supposing that you have grown, under contract with some farmer, Onion, of which the germinating power is 24 per cent., you do not destroy that seed?—No.

You keep that and mix it with older seed of a superior germinating power?—Yes.

It would not be to the advantage of the farmers to buy from you that seed of 24 per cent., as I imagine, though it is not seed?—No; they like to have the best seed.

It is for the convenience of the farmer to mix it with the older seed, then?—Yes.

And therefore you have a large bulk of the superior seed on hand to mix with the inferior in such a case?—Yes.

And in that way the custom has arisen of selling seed of an average growth instead of one varying from year to year?—Yes.

Dr. Playfair.—Is it not a fact that in almost all kinds of seeds you have in different countries different growths?—Yes.

Supposing that you go to the Continent, it may be different from what you are growing in England, and so on?—Yes.

There may be large variation in any one year in different districts and countries?—Do you allude now, may I ask, to seed generally?

Say Turnip and Clover seed, if you like?—Clover I cannot speak to, Turnip seed we never import; then take Onion seed, that seed will often vary considerably.

You have told us that you cannot tell seed that is mixed with killed seed from seed that is mixed with inferior sample, or that it is difficult to tell it?—I think it is difficult, I would be sorry to swear to it.

Then if this Bill becomes an Act, how are you to prove that the seed of the average which is sold has been brought to that average, either by killed seed or by seed of inferior growth?—I think you would have great difficulty in doing so; if you stopped the killing of seed it would go a long way to get rid of the evil; a man who killed seed might be informed against, but I fear you would not altogether get rid of the evil by this Bill.

How am I to tell inferior imported seed which may be reduced by killed seed, if you cannot detect the killed seed?—I do not see how you are to do it.

Chairman.—Would you take in seed which has been naturally damaged before it leaves the hand of the grower, would you buy such an article?—I would not buy it, but I might be obliged to take it in, because our contracts are, that they shall be delivered a fair average sample for the year, but there is nothing said about the growth, and that man, perhaps, is not in any way responsible for the growth.

I think your business is principally in garden and Turnip seed?—Yes, principally; we also do in Sainfoin. If you will allow me to refer to the subject, that is one of the things which you are reported to have mentioned in your speech, as being adulterated with Burnet; well, you cannot buy Burnet seed so cheap as you can Sainfoin; it is not the seedsman who does the mischief, but the farmer by not pulling the Burnet out when he saves seed.

Mr. Cogan.—You stated that you objected to the provisions of this Bill, and you gave as an example, that if you sold Mustard in which there happened to be some Charlock, you might be liable to a penalty?—I think you might, for adulterating it.

The only penalty imposed under this Bill is for mixing killed and dyed seed with other seed, but not for mixing one kind of seed with another?—Then, perhaps, in my mind I have blended my ideas of the Bill with what was stated in the Chairman's opening speech.

THE INTERNATIONAL HORTICULTURAL EXHIBITION AT HAMBURG.

(*Concluded from page* 206.)

FRUIT TREES AND NURSERY STOCK.

This portion formed a very interesting feature of the Exhibition, to the gardening community at least. Prizes were offered for all sorts of fruit trees, such as are exposed for sale in the different nurseries. This was distinctly a nurseryman's class, so that the competition was confined to just a few of the great fruit-tree nurserymen of France—viz., MM. Jamin et Durand, André Leroy, Louis Leroy, Croux et fils, Martin Muller, Baltet, &c., closely pressed, however, by Herr Jurgens, of Nienstadten, Holstein, the able designer of the Exhibition grounds. It was at the International Horticultural Exhibition in Paris in 1867 that we first saw an exhibition of this sort, and we were well pleased with it. At Hamburg, however, the Show was on a much larger scale, covering nearly an acre of ground, which was formed into convenient-sized beds, and the trees planted therein, with good broad gravel walks between. The trees, however, having only been planted here a week or two, had to be divested of all their leaves, which gave the place quite a wintry appearance. All sorts were exhibited, as common orchard standards, pyramids of all forms, wall fruit trees, palmette espaliers, cordons, &c. Many of these forms of trees were extremely handsome, some very fanciful; nearly all were exceedingly good specimens, with their various parts evenly and regularly proportioned. In the matter of fruit-tree training our continental friends are certainly a long way ahead of us, and from this part of the Exhibition some valuable lessons might have been learned.

We cannot here give a list of all the articles exhibited, or the prizes awarded to each. We may, however, state that Herr Jürgens had a very splendid lot of Pear trees, to which the first prize was awarded, "en pyramide aux ailes"—*i.e.*, of pyramidal shape, with the branches all coming out in regular tiers over each other, so as to give the tree a sort of winged appearance. These were very regular and very pretty. Baltet, frères, horticulteurs, Troyes, came in second with the same style. For the best wall tree, palmette form, MM. Croux et fils were first with a fine example of a Pear; M. Baltet second with a Peach which in our opinion should have been first. For cup-shaped trees M. Baltet carried off the first prize, and for cordons of three different sizes we believe Herr Jurgens was placed first. These trees, however, did not please us much, as, although they were remarkably well grown, we could discern but little trace of fruiting buds upon them; they seemed more inclined for a rambling growth.

For twelve common standard fruit trees three-years-budded, three each of Apple, Pear, Plum, and Cherry, there were no less than eighteen competitors, and the first prize was awarded to a very splendid lot exhibited by C. Million, Nurseryman, Lubeck. MM. Jamin et Durand, André Leroy, Louis Leroy, Croux et fils, Muller, &c., all exhibited a great quantity of their different forms of fruit trees, with samples of the stocks they are worked on, such as they grow for sale, which were all deserving of attention.

VEGETABLES.

Of these there was but a very poor display, so far as quality was concerned. A great number of Potatoes were exhibited; they were, however, as a rule, small, but some were very large, deep-eyed, and of a very coarse appearance—not nearly so dainty as the "praties" of our own country. Cucumbers were shown largely—but how? Not as we ever see them in this country, but big, yellow, almost ripe, and full of seeds. In this condition they are always exposed for sale in the market. How they can be used in such condition, however, we have not the remotest idea, excepting it be for soups—certainly not for salads as we are accustomed to. An immense quantity of Haricots (Kidney Beans) and Celeriac (Turnip-rooted Celery), was also shown, both of which vegetables are grown and used to a very great extent in Germany. A beautiful dish of fresh forced Asparagus was shown, and excellent Cauliflower. Great quantities of Pumpkins, Kohl Rabi, Black-skinned Turnips, and fine Carrots were also present. The majority of the articles here, however, presented anything but an inviting aspect, and contrasted very unfavourably with our own home productions.

ARRANGEMENT OF FLOWERS.—BOUQUETS, &c.

For this section a great number of prizes were offered for all styles of arrangement of Cut Flowers—in the epergne, for the dinner-table; bouquets in vases, for ball-rooms, for weddings; for coiffures, wreaths, garlands, &c. It was expected that this would form a very interesting portion of the Show; with it, however, we were much disappointed, as we had formed very high notions of the skill displayed in flower-

arrangement by our German friends. We shall not, however, be going beyond the bounds of truth when we say that out of the whole collection (some 200) there was not a single good arrangement of flowers shown. The common error of attempting to do too much was here fully displayed. Instead of a few simple colours being used, harmonising well the one with the other, the endeavour in every instance seemed to have been to have variety, the whole being without harmony and without taste. That which pleased us most was truly the most simple—composed entirely of sprigs of green Myrtle, with the pretty white Myrtle flowers intermixed, or studded over the surface. A little wreath, composed of the same materials, was also pretty. In contrast with this modest quiet beauty there was another wreath formed entirely of the flowers of the double red Pelargonium, also a bouquet in a vase of the same, intermixed with a little green Fern, which pleased greatly. These had such an artificial look that it was necessary to inspect them very closely to make sure of their reality. The novelty of the articles used, added to their tasteful arrangement, attracted much attention. A large bouquet of Roses, measuring about 2 feet in diameter, attracted a considerable amount of attention, the flowers being beautifully shaded off in their different colours, from white in the centre to deep red outside, reminding one much of the shading of colour in Berlin wool work. Some of the bouquets and vases of flowers were of an enormous size, from 2 to 3 feet across, and composed of every possible variety of flower.

Here we observed also, for which prizes were awarded, some fronds of Cycas revoluta, having attached a small bouquet of white flowers tied up with white satin ribbon. It is a custom peculiar to some parts of Germany, on funeral occasions, for the mourners to carry fronds or leaves of this plant, and for the coffin, &c., to be similarly arrayed. For this purpose these plants are largely cultivated in Germany, and the sale of their leaves forms one of the most lucrative portions of the trade in some of the nurseries.

MACHINERY AND IMPLEMENTS.

In this important section the Exhibition was not so good as might have been anticipated. Here, however, the English exhibitors greatly predominated over the German, both in the number and quality of their articles. Prizes were offered for the best machine for transplanting large trees, and for this Messrs. Barron & Son, of Borrowash, Derby, Messrs. Peter Smith & Co., of Hamburg, and others competed. The first prize was awarded to Messrs. Smith & Co.; but upon what grounds this judgment could have been arrived at, excepting that in the one case the machine was altogether larger, and happened to be loaded with a bigger tree, we, like everyone else who saw the two machines, entirely failed to make out. We consider this judgment very unjust, and a piece of gross partiality. We all knew in this country with what perfection Messrs. Barron can and have for many years conducted this sort of work, and we confess we think it rather hard for them to be thus beaten by a clumsy lumbering machine like Messrs. Smith's, which is entirely incapable of performing its work. The prizes were awarded without a trial of the machines, so that the Jury had nothing to guide them. If Messrs. Barron's request for a trial had been allowed, the decision must certainly have been reversed. For mowing machines several English firms competed—viz., Messrs. Green, Boulton, Ransomes & Sims, and others, the first prize being awarded to Messrs. Ransomes for, no doubt, a very excellent machine. Williams's new patent Archimedean lawn mower was also shown. This, it may be observed, is of an entirely novel construction, the most simple of all. There is no box for gathering the grass, that being scattered on the lawn. It is, in our opinion, the best lawn mower yet introduced, and the greatest economiser of time in the operation.

Messrs. W. S. Boulton, of Norwich, horticultural engineers rising rapidly into notice, exhibited a large number of garden engines, water-barrows, garden chairs, &c., for which they received the prize given for the largest and best assortment of garden furniture. We can speak in very favourable terms of their garden engines, which are of extremely powerful action, and of simple adjustment. A very ingenious watering-pot engine, or syringe combined, was also exhibited, and for small gardens it might prove extremely useful. Messrs. Boulton's swing water-barrows are also a great improvement, and deserve to be better known. The new hydronettes were also exhibited. We cannot, however, say we admire their action much; the water is thrown forth in too jerky a fashion instead of gently continuous. Messrs. Schmidt & Francke, of Osnabruck and New York, exhibited a great quantity of garden tools—hoes, forks, rakes, axes, hatchets, bill-hooks, &c., of many peculiar forms and patterns. Excepting in the case of some of the hatchets, which were certainly very recommendable, we could see little to take our attention. Messrs. Ch. Delacroix, Ghent, exhibited a peculiar style of heating apparatus, so peculiar that we did not in the least understand it, or how the water was made to circulate; all the three pipes proceeding from the boiler, and continuing exactly on the same level the entire distance, which was the flow or which the return we knew not. All were equally hot throughout a distance of 50 feet. A first prize was awarded. Shading for hothouses was also exhibited largely; the prize was awarded to an article peculiar to the Continent, where the houses require a thicker shade than in this country. This shading is simply thin laths, about an inch in breadth, fastened together by some thick string. This, when painted green, as it usually is, has a very pretty appearance on the roofs of the houses, and may be rolled up as easily as canvas. We wonder it has never been adopted in this country.

Messrs. C. Buhring & Co., Hamburg, and Silver Street, London, exhibited a quantity of their new Charcoal Flower Pot, which they are attempting to introduce. We can as yet say but little about these, only that we know charcoal is a material very much relished by the roots of plants. The pots themselves, which are made of a composition of pitch and charcoal, afterwards burnt, are of very firm substance, yet very porous, absorbing a great quantity of water, which the charcoal sweetens, the material acting as a filter. Slabs are also made of this, which are intended for use as stages, instead of slates, also linings for walls, &c. We are of opinion that some good will come out of this, and that if these charcoal pots, &c., can be produced at a reasonable price, they will prove very serviceable for some classes of plants. They deserve a trial, at all events.

Messrs. Veitch & Sons, Chelsea, exhibited also a great quantity of garden tools, knives, &c., and there were, besides, many other exhibitions in this section which our space forbids us to notice.

MISCELLANEOUS SUBJECTS.

One large building was entirely devoted to subjects of a miscellaneous character—a sort of horticultural museum. Here Senator Goddeffroy, of Holstein, exhibited an extremely interesting selection of articles from his private museum—an immense variety of dried Fungi and Herbaria, &c. Here also Dr. Laudois and Dr. Altun exhibited one of the most interesting collections of Insects, &c., such as are useful or injurious to vegetable life, that has perhaps ever been seen, these being accompanied with specimens of their works or depredations on the various plants. In their various stages of development, they formed a really useful and instructive exhibition. There was also exhibited a very fine collection of all resinous matters, copal and other gums, &c. Immense quantities of fruits, preserved and dried in every conceivable way, were likewise shown.

Messrs. Ernst & Von Spreckelsen, seedsmen, Hamburg, exhibited a very large and excellent assortment of all kinds of grain, garden seeds, &c., arranged in very beautiful order in pretty conical glass bottles. Messrs. Veitch & Sons also showed a fine collection of English garden seeds.

Messrs. J. M. Krannick, Thuringen, F. & A. Haage, Erfurt, and A. H. Hobbel, Hamburg, each exhibited great quantities of flower stakes, labels, trellises, and fruit boxes, all made and arranged so neatly that, simple objects as they were, they did not fail to attract a considerable amount of attention.

Dried flowers, Everlastings as we call them, were also exhibited in endless array by Messrs. Hobbel, Hamburg, Handel, & Co., Hamburg, and others. This is a feature in the floral line which is carried to a great extent in Germany, and enormous quantities of these dried flowers are annually exported. Almost every flower, even the Rose, is dried and preserved in the same manner. We believe it is accomplished by some process of slow baking. The dark colours seem to hold pretty well; the light ones, however, are all dingy, and all the bouquets we have seen made of them have a very flimsy tinselly look, not at all pretty.

A very remarkable lot of bouquet papers and holders was here also shown by M. Vollmer and Gustav Demmler, of Berlin. Everyone who has had any practice in bouquet-making, and the fitting of the papers now in common use, well knows what ill-fitting, inconvenient things they are. Some of the papers exhibited were exceedingly well adapted for their intended purposes, being made of such a shape as exactly to fit the shape of the bouquet without cutting or pinning. Some others of these papers were so elaborately got up—so much fancywork executed upon them, and so bedecked with ribbons, &c., that, as many observed, even with the choicest flowers it would be difficult to tell which were the prettier, the flowers or the paper holders. These, however, were simply overdone, in order to show the maker's skill in ornamentation.

In the gallery of the great plant house were exhibited a number of drawings of horticultural buildings, &c., amongst which there was nothing very striking. Herr W. Hochstetter, University gardener, Tubingen, Wurtemburg, exhibited here a very extensive and excellent collection of dried Conifers—some hundreds of species, all in most excellent condition, and full of interest.

A very splendid lot of drawings of fruits—Apples and Pears—was also exhibited by Dr. Ed. Lucas, Director of the Pomological Institut, Rutlingen. These were well and faithfully executed in colours, and deservedly admired.

We now close our report of this great Show. Many objects in this vast gathering, although of much interest, must have necessarily escaped our notice. It would have been, indeed, impossible to have noticed all. We have, however, we hope, reported faithfully, and if at times we have been severe, we believe we have been just.

In the report of last week read "Blankenose," not "Blankenose;" "Nieustadten," not "Nieustadten;" "Boskoop," not "Borkoop;" "Brockenberg," not "Brockenberg;" "*Aulnay* Lez-Sceaux," not "*Avenay* Liz-Sceaux;" "Villa Monrepos," not "*Mauressas*;" "Bigarreau Monrepos," not "Bigarreau *Maureesses*;" "Marien, Baumanns rother winter," not "Marien Baumanns rother winter."

CRYSTAL PALACE.—A fine spar of Abies Douglasii (135 feet above the ground) has been erected as a flag mast adjoining the Tropical Department on the road front of the Palace; a flag

was hoisted upon it for the first time on Wednesday, the 8th inst., the stars and stripes being appropriately so honoured. The mast was presented to the Company by the late Governor of British Columbia, Frederick Seymour, Esq.

POMOLOGICAL GLEANINGS.

Hathen's Red Gage (Reine Claude Rouge de Hathen).—This is a new Plum, sent us by Mr. Rivers. It is large; in size, form, and colour, it is very like Victoria; but the flavour is like that of a Gage, the flesh separates freely from the stone, and the juice is very rich. This is a great acquisition; the young wood is bright and smooth, while that of Victoria is downy.

—— Yellow Magnum Bonum.—This is another Plum sent by Mr. Rivers. It is perfectly distinct from White Magnum Bonum. It is a medium-sized oval fruit, with a dull yellow skin sprinkled with red dots; it is also a clingstone and with a rich flavour; the young shoots are smooth. All these are characters which bring it very near Jefferson and Coe's Golden Drop.

—— My Lawton and Dorchester Blackberries are ripe (August 20th). They are at least five or six weeks earlier than our English sort, their berries more conical, and not quite so large as we have on our Brambles in good soils. They have the same flat, mawkish flavour. Thousands of bushels are sent to the markets in the northern States of America, where they are very popular. It is curious to note this boyish taste in our transatlantic cousins; they must be very simple and innocent, for here Blackberries are only eaten by very young folks. —Rubus.

—— The Early Favourite Plum.—This nice early Plum was raised many years ago by Mr. Rivers with the Early Prolific, and is often mistaken and sent for it. It is, however, quite distinct, having downy shoots, and fruit smaller and more round. Against a south wall it often ripens early in July. It is so juicy and refreshing, as to remind one of a Black Hamburgh Grape.

—— Messrs. Bunyard & Son, of Maidstone, have sent us again fruit of that delicious little seedling Apple we figured and described last year, in Vol. XV., page 284. It is all flavour, and the flesh is very tender. It is a pity it is so small, but in this respect it will rank among Apples, as the Seckle does among Pears.

—— The Atlas Nut.—We have had a Nut sent us by Mr. Rivers called the Atlas Nut, but why so named we do not know. The nut is short and roundish, and of a good size, a good deal like the true Cob (not the Kentish Cob); but has a long husk projecting beyond the nut. It produces fruit from seven to eight in a cluster, and the kernel is very full and firm. The shell is pale brown.

THE STORM OF SEPTEMBER 11TH.

Last night (11th inst.), or rather this morning, this neighbourhood was visited by a most terrific storm of wind and rain, doing great damage to the Hop plantations and fruit crops in the neighbourhood. Coming as it did from the south-west, and there being a valley from that direction to Lillesden, it had a most damaging effect on these gardens. Bushels of fruit of different kinds are blown down, and some trees; while the green crops, such as late Peas, Scarlet Runners, and Broccoli, are blown in all directions, and the foliage much battered about. In the more ornamental portion of the grounds large limbs are blown off trees, and other damage done. Even some standard Laurustinuses in slate tubs, weighing 2 cwt. each, were blown over; but it is surprising to see how well the Wellingtonia, Pinus insignis, and Taxodium sempervirens stand the wind in an exposed place like this, while the Deodar, Douglas Fir, and Pinus excelsa, appear affected by it, though not so much so as at some places.—T. Record, *Lillesden Gardens, Staplehurst, Kent.*

[We have received similar accounts from Mr. Perkins, Thornham Hall Gardens, Suffolk, and other correspondents.]

"WHO IS TO BLAME?"

The remarks of "C. C. E.," in last week's Journal surprise us, and as we (in conjunction with Messrs. Hurst & Son), introduced Laxton's Supreme Pea to the public, we hasten to reply.

Presuming that your correspondent purchased the true variety in a sealed packet, his experience is astonishing, and as far as our reports go, exceptional. It is a well-known fact, that to publish an actual standard of the height of Peas is impossible, inasmuch as on some soils and under certain influences Peas run quite away from their real character. With this fact in view, we endeavour, when deciding the description of any new Pea we may introduce, to fix the standard as that most likely to be generally acknowledged, and in this instance we were guided by the reports of the Royal Horticultural Society, and our own observations during trial.

We feel sure, therefore, many readers of the Journal will be as much surprised as ourselves at "C. C. E.'s" remarks on this point. Now, as to our statement of the qualities of Laxton's Supreme Pea, it is sustained by several published authorities. In addition, a correspondent in Yorkshire forwards a provincial newspaper announcing a show of Peas, from which we extract the following:—"All the Peas shown were Laxton's Supreme, a new and superior kind. There were twenty dishes shown. The smallest number of Peas in each pod was eight, the largest containing thirteen, the average being ten."

Another correspondent, Mr. Henry May, seedsman, Bedale, says—"I think Laxton's Supreme an improvement on Prolific. It took the first prize at Carthorpe Show, beating Veitch's Perfection and other well-known kinds."

We may also mention, that at the Manchester Meeting of the Royal Horticultural Society, in the collection of vegetables that secured the Cellini cup prize, the Peas shown were Laxton's Supreme and Laxton's Prolific. We are constantly receiving similar evidence, whilst the gratifying reports appearing almost incessantly in the gardening journals are worthy of note. As regards the price of an article, it is worth just what it will fetch, and in practice we may mention, that if we had possessed three times the quantity of the Pea in question, we could have sold it at the same price. From this it appears to us that there is a large section of the gardening world who do not look upon 3*s.* 6*d.* per half pint as a high price for a first-class novelty. In his condemnation of Laxton's Supreme, "C. C. E." pits his judgment against the decisions of the Royal Horticultural Society's trials at Chiswick during two years, and also against the judgment of ourselves and Messrs. Hurst & Son, who were induced to give something like £100 per bushel for stock seed, because we fancied, and are still of opinion, that it is a grand Pea.

If seedsmen are enterprising enough to give these large amounts for really good novelties, "C. C. E." must expect to pay 3*s.* 6*d.* for a sample, or look at the Peas in his neighbour's garden instead of his own. We may add, that we have several other first-class Peas of Mr. Laxton's which we intend offering to the public, and before we introduce them we do not expect them to please everybody, but we are equally certain the majority of the gardening community will thank us for bringing them under the public notice.—James Carter & Co.

A FEW OF THE FERNY COMBES OF NORTH DEVON.

The angle formed by the meeting of the bases of two adjoining hills has various names, and I have seen examples of all such angles—the Valleys of Switzerland, the Glens of Scotland, the Dales of Derbyshire, the Vales of Somersetshire and Wales, the Ghauts of India, and the Passes in many lands, yet none resemble the Combes of Devon. These Combes are many-branched; have breadths of grass so green, have such steep sides, often wooded, always densely clothed with entangled underwood and briars, are threaded by a stream, and are rich in Ferns. Their soil, their climate, their shade, render them specially the home of Ferns—they abound and thrive rarely. And so do legends. There are near the shore of North Devon more than twenty places with names ending in Combe, and I verily believe each Combe has its legendary tale, always a combination of love, murder, catastrophes, skeletons, and ghosts. I have heard a dozen such. There is Crosscombe near Lynton has two legends, for there flits the ghost of the daughter of one with the unpronounceable name of De Wchehalse, who threw herself in despair from Duty Point when the noble lover who had wooed and won her proved false; and there the spirit of Sir Arthur Chichester wanders on the coast as penance for his sins. Then there is Woolacombe, where the ghost of the

De Tracy who aided in murdering Becket is doomed for ever to make wisps of unadhesive sand. Since that murder they say hereabouts

"All the Tracers
Have the wind in their faces."

Shall I mention any more of these wild traditions? Yes, one more, that of Chambercombe. This genuine example of a North Devon Combe is about two miles from Ilfracombe, about one mile from Bicklescombe, and the same distance from Warmscombe! Its steep sides are clothed with Oaks; along its bottom rapidly runs a stream; Ferns, as well as Geranium phæum, and Erodium moschatum, and Aquilegia vulgaris abound; and not far off—at Hele, is found the wild Balm. Long have the Champernownes been connected with this portion of Devon; but the earliest notice of their connection is especially applicable to my notes, for in the eighteenth year of the third Edward's reign, more than five centuries since, "William Champernoun" had wrongfully deprived James de Audeley of the right of presentation to the church of "Ilfridcombe," as it was then spelt. Champernonscombe, as it was once called from belonging to that family, was estreated to the crown; yet a member of the family continued its tenant, and by his ability as a farmer accumulated money. His only child, a daughter, was united to a wealthy foreigner, and her father after the lapse of some years began to see a prospect of repurchasing the forfeited estate. At this juncture, during the night, when one of those fearful storms which visit our western coasts was raging, a vessel bound for Bristol was driven on the rocks nearest to Champernonscombe. The tenant saved a lady from the wreck, and carried her home. About her person and fastened round her waist were jewels of great value and a large sum of money. To all inquirers he said he knew of no survivor of the wreck. He appropriated her property to his own use, and was thus enabled to complete the purchase of the estate. The lady had not survived the injuries she had received; and to conceal the body he boarded up the window, and built up with cob the doorway of the small room in which her body was lying. Ere long information reached him, showing that it was his own widowed daughter who had thus perished on her voyage back to her old home. Her father could now no longer endure to dwell on the estate he had so long coveted and by intended fraud had purchased. He let the whole, stipulating that no one should reside in the house, and this vacancy he provided should be continued for several generations. At length it passed into other hands; and it being observed that there were five windows but only four chambers, an opening was broken into the closed room. In it were a bed draped and a lady's dresses, all of the style prevalent during the days of the last of the Stuarts, and in the bed was the skeleton of a woman. The confessional narrative was found among the papers of her father. The house, of which I send you a sketch, is at the end of a Combe which I visited oftener than others in search of Ferns.

North Devon is truly "The Land of Ferns," and deserves this title, not only because of their there abounding, but because you continually fall in with something or some one demonstrating their prevalence and their culture. By the side of every country path you observe fragments of fronds, telling that collectors have passed that way. In the front of cottage doors, far away from a town, you see boards bearing inscriptions such as this—"Ferns sold here by John Lewis." In the towns there are professed Fern-growers and Fern-propagators. There are two such in Ilfracombe, named Moule and Dadds. They have followed the employment for years, and have fernerias—terraces cut on the shady side of a rock, in which they grow not only the species but many of their chief varieties. They have small greenhouses, and there in pans I saw thousands of seedlings raised for sale and to test whether the varieties are permanent. I have always upheld local naturalists' clubs, because I know from personal experience the protecting influence of those associations. The man who has such a mental employment and congenial companions for his leisure hours, has a sound and evergreen fence against evil. Such a club is that of Todmorden in Lancashire, and no better evidence of its good influence need be quoted than that its secretary and some of its members had travelled into North Devon, and enlisted Mr. Dadds as their guide in search of Ferns. The very donkey-drivers are learned in Ferns, and I especially recommend one of them, Mrs. Rowe, to those of your readers who are lovers of Ferns and who visit Ilfracombe. She knows where the species are to be found, and I tried in vain to puzzle her by showing her mutilated fronds. The Maidenhair, she says, is obtained now not only from White Pebble Bay, but from a bay just beyond Helesborough and from Lundy Island. The history of this worthy Fern-and-donkey woman is not without interest, and points a moral. She was a lady's servant, took to herself a husband, and when the loss of an arm disabled him from pursuing his usual occupation, they, nowise daunted, became the owners of donkeys and donkey-chairs, and guides to the Fern-seekers.

Here, too, resides the authoress of that pleasant little book "Ferny Combes." None but a lover of the wild and the beautiful could have written its eight introductory chapters. She is the wife of the Rev. Mr. Chanter, rector of Ilfracombe, and there is a biography in this dedication of her volume—"To the Reverend Charles Kingsley and Mrs. Kingsley, this little book is affectionately dedicated by their daughter, as a small token of the gratitude due to them for awakening and fostering in their children a love of nature and beauty." May she and her husband attain the age and be as adhesive as his ancestor, whose memorial in the churchyard records that he lived for ninety-three years, during seventy of which he was perpetual curate of Hartland.

Every one who is not blind must have noticed here and elsewhere how the love of plants and their culture clings to man, woman, and child; even when living in an attic in the closest alley of a town they will have a "Geranium" or a Fuchsia in a pickle-jar or a dilapidated teapot. I once saw a permanent garden on a canal barge. Schoolboys have their gardens, and even old college professors, like Dr. Jowitt, will have a

plot, and stir it with a trowel, even after being lampooned thus:—

"Professor Jowitt a little garden made,
And round it put a little pallisade.
A little garden taketh little wit to show it,
And little wit had little Dr. Jowitt."

This, and much more to the same purpose, came to my remembrance when looking from my window at Ilfracombe I saw a miniature garden, which a table-cloth would cover, having a narrow walk all round, a narrower border crammed with pigmy plants next the enclosing walls, and a grass plot in the centre, so small that its owner was mowing it—clipping it I should say, with a pair of scissors.

Of extensive gardens I saw but few in North Devon, and in them the horticulture was not of superlative excellence. The culture of culinary vegetables is there more successfully pursued than that of ornamental plants, and I was especially interested by the prevalent mode of taking up the Potato crop. The soil is light, and usually are the ridges of Potatoes on a steep slope. The only implement used is a long-bladed hoe, and beginning at the lowest end of each ridge, this long blade is struck into it beneath each Potato plant, and a pull towards the operator brings all the tubers rolling to his feet. The soil and climate are favourable to the growth of the Potato, and upon my so observing to a gentleman whom I casually met during one of my rambles, he replied, "So my ancestor thought, when he, the first field-cultivator of it, planted them near Exeter, exactly one hundred years since." Who my informant was I know not; but Mr. Roberts, in his "Social History," says "One Moore, an Irishman, planted the first field of Potatoes in Devon, at Poltimore, where he resided." Poltimore is about five miles from Exeter.

Although there is no very superior flower gardening in North Devon, yet a love of flowering plants prevails there among all classes, as it does elsewhere in England; and if a Rose tree, Fuchsia, or Myrtle is planted and left to itself, and unprotected, the climate is so genial, that it attains a size and vigour never witnessed in our colder localities. This was further impressed upon me by seeing near Lee Bay a hedge of Veronica Andersonii. It is a common error to connect the name of *North* Devon with the conclusion that its climate must be more severe than that of *South* Devon. So far is this from being the truth, that the mean temperature of Ilfracombe, Lynmouth, and their coast vicinities is slightly higher than that of Torquay, with this additional advantage, that the average summer temperature is lower, and the average winter temperature is higher—a fact explicable by our knowledge of the Gulf stream flowing along its shore.

In no other year have I noted such a frequent occurrence of white variegation in the foliage of our native hedge-row plants. Such abnormal colouring is rarely permanent; but this is not the case, we know, with our garden plants, cultivated for this peculiarity. I was introduced, at Chippenham, to a gentleman who admires especially white-variegated-leaved plants, and he showed me a Wych Elm in his garden that has the natural green foliage on its topmost and lowest boughs, whilst those on the central branches are white. This gentleman, Charles Bailey, Esq., is one of those who indulge largely in "the luxury of doing good." Not only has he built residences and endowed them for decayed practitioners of medicine and their widows, but is generally the friend of the distressed. His scientific collections show that his head as well as heart "turns to what 's most wholesome," and his garden evinces that admiration of things graceful is not incompatible with a love of things of thought, and things of kindliness.

I must now lay down my pen, for I had only a Parthian glance at that most Swiss-like district of North Devon about Lynton. If Moore had seen the "Waters' Meet" near Lynmouth, he would not have written, unless as specially applicable to it—

"There is not in the wide world a valley so sweet
As the vale in whose bosom the bright waters meet."

If the poet had looked upon the North Devon "Waters' Meet," he would have seen that the Combe, in which join the streams of the Lyn and the Brend, is quite as "sweet" as that valley in Ireland where those of the Avon and Avoca unite.—G.

DEATH OF MR. VEITCH.

It is again our painful duty to record the death of another eminent horticulturist—one whose name has been often on the lips, and prominently in the minds, of all lovers of plants wherever civilisation has spread. On Friday last, the 10th inst., died at Stanley House, King's Road, Chelsea, Mr. James Veitch, the head of the firm of James Veitch & Sons, aged 54.

Mr. Veitch was the third in succession of three generations of nurserymen of his name, who for nearly a century have occupied a prominent position in that branch of industry. His grandfather, a native of Jedburgh, in Scotland, established a nursery at Killerton, near Exeter, towards the end of the last century, and there the subject of this notice and his father were born; the former on the 24th of May, 1815, and the latter in 1792.

Early in life Mr. Veitch exhibited those tastes and qualities of mind which developed with his years, and combined to make him in after-life the man he was. When yet young his father sent him to London to gain the experience which at that time could only be obtained in a London nursery. The provincial establishments were in those days much more dependant on the London nurseries for novelties and supplies than they are now; and it was to London—severed though it was at that time from the rest of the country by long roads, and reached only by stage coaches and stage waggons—that all who wanted improvement and extended experience and knowledge, were usually attracted. Mr. Veitch, always ardent in the love of his pursuit, was first sent to the nursery of Chandler & Son, of Vauxhall, at that time the special attraction for the culture of the Camellia, and then for a short time to that of Mr. Rollisson, of Tooting, in whose family he resided. We mention this fact because it has a bearing on Mr. Veitch's future, and on that of the Exeter and Chelsea nurseries. As his son was at Mr. Rollisson's for improvement, and at the same time living in his family, Mr. Veitch, senior, prudently thought that some compensation was due for the favours his son was receiving, but the Messrs. Rollisson firmly declined to entertain any such proposition; and Mr. Veitch commissioned the subject of this memoir, before leaving Messrs. Rollisson, to purchase from them plants to a certain amount, as a graceful acknowledgement of the favours and advantages he had received in their establishment. Orchids were at that time just coming into vogue, and our young nurseryman exercised his taste and his judgment in making a selection of Orchids, among which were Oncidium papilio and other rarities of that period, with which he started on his way homewards; and these were the beginnings of those Orchid collections which have now for many years made the nurseries of the Veitches famous.

About this time the long-contemplated removal of the nursery from Killerton was being carried out; and whether it was in consequence of the new ideas and fresh impulse he had acquired by his experiences in London, or the natural development of an establishment which had still within it the united judgment of sire and grandsire, true it is that from the time of Mr. James Veitch's return to Devonshire the Exeter establishment took a development which progressed with wonderful rapidity, and never ceased till it became without exception the most important and noted of the provincial nurseries. The Orchid purchase, and we suspect also the fresh knowledge which only stimulated a taste already strong, had their effects in giving a direction to the nature of the business which was in future to be the distinguishing characteristic of Mr. Veitch's life. It was not long before a search for Orchids and new plants was to be made in their native habitats rather than in the London nurseries, and accordingly in the year 1840 Mr. William Lobb was despatched to Brazil to enrich the Exeter Nurseries, and through them the plant collections of England. A house was erected specially in which to raise the seeds sent home by Mr. Lobb; and among the first of his introductions were Dipladenia splendens, Hindsia violacea, Gloxinia speciosa var. macrophylla variegata, Begonia coccinea, Manettia bicolor, Echites atropurpurea and hirsuta. Hypocyrta strigillosa, Stigmaphyllon ciliatum and heterophyllum, Tropæolum azureum, Rondeletia longiflora, Gesnera polyantha, and many others.

Encouraged by the success that attended Mr. William Lobb's mission, about three years after his departure for Brazil his brother, Mr. Thomas Lobb, was sent to Java, and there began the foundation of the Orchid collections, which culminated in what may be now seen in the exhibitions of Messrs. Veitch and Sons at the great shows and in their immense collection at Chelsea. Those who knew Mr. Veitch well could imagine the delight with which he would hail among the first receipts from Java such plants as Phalænopsis grandiflora and Vanda suavis, for they were of the earliest that arrived. To follow out in detail all that was done by the Messrs. Veitch of Exeter would occupy more space than we have at command. The time came

when the subject of our notice was constrained to remove from the parent establishment. An opportunity offered which, with his keen perception, he saw opened a field for his energy and enterprise, which the narrow limits of a country nursery did not afford, and accordingly in April, 1853, he left Exeter and came to London.

For a long series of years the Exotic Nursery of Joseph Knight, of Chelsea, carried the sway as the centre of attraction for new and rare plants; but at the period about which we are now writing it had fallen much into decay, and required new life and energy to resuscitate it. There was none better qualified for such a task than Mr. Veitch, who in April, 1853, became the purchaser and sole proprietor, though the designation of the firm was "Veitch & Son, of Chelsea and Exeter;" the same accord continuing between the two establishments, although in reality separate and distinct. The history of this establishment has been the history of English horticulture for the last sixteen years. The collectors who were sent out and the plants which were sent home all added fresh lustre to a nursery which had at its head more fire and energy, coupled with keen perception and sound judgment, than perhaps fell to the lot of any other in the kingdom. Among these collectors let us not forget to mention his own son Mr. John Gould Veitch, who in his one journey to Japan and the East, and his other to Australia and the South Pacific Archipelago, added numerous treasures to the botanical and horticultural wealth of this country.

In sixteen years, through the exertions of this one man, and yet ably seconded by two sons, whose devotion has been only second to that of their father, the Exotic Nursery at Chelsea, with its extensive adjuncts of Coombe Wood and Fulham, has risen to be the largest and most prosperous in England. May we not say in Europe?

And now his labours are ended, the work he had to do has been accomplished, and he has retired to his rest, leaving behind him those who are fully qualified by their knowledge and experience, and devotedness to their pursuit, to maintain the position and reputation their father has built up.

The disease from which Mr. Veitch suffered was an affection of the heart. For nearly twelve months he has not taken an active part in business, the whole management having devolved on his sons. Yet there were no symptoms which gave rise to any immediate apprehension of danger. Three days before his death he deliberately walked up to Brompton Cemetery, which is close by, and without the knowledge of any of his family selected the spot for a family grave. He could not be assured as to the depth which he required being attained, and left the completion of the purchase till that could be decided; but with all his business habits to the last, he stood by till the attendant with a spade marked out the space, so that, as he expressed it, "If anybody should want it, it belongs to me." The day previous to his death he received a visit from his old collector, Mr. Thomas Lobb, and whether the excitement consequent on the pleasure he derived from seeing his old friend, or that nature itself was exhausted, is not known, but on the following morning at a little after three o'clock, he felt an oppression in breathing, and with all his faculties about him, and surrounded by the members of his family, he breathed his last.

We understand that the business of the Royal Exotic Nursery will be continued as usual in its integrity. No change will take place either in the organisation or in the working, but all will be conducted as it has hitherto been with that care and energy which have already secured for it so high a position.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The weather being favourable, proceed with work which can be most advantageously done when the soil is in good condition. It is advisable to adopt precautions at this moment, to avert the effects of early frosts from the last crops of *Kidney Beans* and other tender vegetables. If *Globe Artichokes* are desired at an early period of the year, some strong suckers should now be selected and potted; if protected by being placed in a cold pit throughout the winter, and planted out early in the spring, they will bear at least a fortnight sooner than the old plants. Prick out an adequate supply of young *Cabbage* plants. A good store of *Lettuces* should be planted in a position where they can be protected from heavy rains. The general crop of *Onions* will be fit for housing by this time; see that no decayed bulbs are stored with the rest. The ground they have occupied should be dug on their removal. Cabbages would be a good successional crop. Lights from the Melon pits, sloped against the wall, will both protect the *Tomatoes* and hasten the progress of their fruit. Thin young crops of *Spinach*, *Turnips*, &c., before they become weakly and drawn through standing too closely together. Stir the surface of the soil deeply among growing crops, to admit air to the roots and keep down weeds. Manure spare ground, and dig or trench it for another crop whenever time can be spared.

FRUIT GARDEN.

Remove rubbish of all descriptions from fruit-tree borders. No obstacles should prevent the roots having the full advantage of favourable weather. Gather carefully the various Pears and Apples as they arrive at their full growth. Discard at once bruised fruit, it entails ultimate trouble.

FLOWER GARDEN.

Should the Verbenas or other mass flowers show signs of exhaustion, manure water will be found a useful stimulant; it is advisable to induce a vigorous growth in Verbenas at this period, and so manage to repress the mildew. See that faded blossoms and seeds are regularly removed from beds, other blossoms will be thus encouraged; much of the vital energy of a plant is expended in the perfection of its seeds. As soon as the beds can be spared they should be prepared for the reception of bulbs. Where many cut flowers are required, it is of great advantage to possess a flower border near any large building, for the heat thrown off by the latter at night is sufficient to prevent injury from early frosts, or a little covering at night secures their safety. In other cases certain beds should be selected and regularly matted at night. Use the present opportunity of effecting a complete clearance of weeds from walks and borders. As has been often recommended, give careful attention to young stock, and recollect that sturdy, well-rooted plants are much easier to winter than large plants with long-jointed soft wood. With good convenience, late-rooted cuttings may still be potted-off, but unless they are very close together in the cutting-pots, it is better to winter them in these rather than shift at this season, for they occupy much less space in the cutting-pots, and having more room for their roots, they are frequently more healthy, and require less attention in winter than those which are potted singly. Square pans, 12 inches wide and 5 inches deep, are very suitable for wintering cuttings of Verbenas, Lobelias, and other plants which can be kept in a small state. One of these will hold twenty good plants, and with care, to prevent their being injured by damp, they may be wintered quite as well treated in this manner, as if potted singly in 4-inch pots, and a vast number may be stored in a small space. Where cuttings of such plants have to be kept in cold frames or pits, the plants should be potted singly, as they would be very liable to damp-off, notwithstanding every care, if placed thickly together in pans, and put where it may be impossible to give air for weeks together. The practice of wintering bedding stock in unsuitable places, is generally adopted from some mistaken notion of economy; but if a fair calculation of the time required to attend to plants wintered in this way could be made, and all the losses taken into account, it would be found to greatly overbalance the trifling cost of putting up a proper heating apparatus, and consuming a few bushels of coke or coal annually.

GREENHOUSE AND CONSERVATORY.

In the management of the majority of plants in these structures, it is very desirable to produce a robust hardy growth, and afterwards to lessen the activity of vegetation, that they may gradually accommodate themselves to the changing circumstances of the season. Ventilation judiciously managed will assist in accomplishing the desired result, and water will be required in less quantities both for the roots and foliage. Be prepared with specimen plants in flower to supply the place of those going out of bloom. If early Camellias are wanted, let some of the most forward be placed in a rather close house to induce them to open their buds, giving them a regular supply of manure water. Some of the earliest Epacrises may be placed in a close part of the greenhouse, where they will soon open their blossoms; also Daphnes and many other plants, provided their flowering buds are prominent. Aim at keeping the atmosphere of the house rather dry, using just enough fire heat in damp cold nights to allow of giving sufficient air to keep the atmosphere in motion, so as to prevent damp from being injurious. Shake out and repot Pelargoniums which are sufficiently advanced after having been cut back, keeping them rather close and moist until they strike into the fresh soil. Plants, how-

ever, that are fairly established after repotting can hardly be too freely exposed to the air, or kept too cool. Let Cinerarias also be kept cool and moist, and attend to repotting such as may require it. Primulas must likewise be carefully attended to in order to encourage them to make rapid growth, particularly the double varieties. Summer-flowering twiners, which usually become unsightly about this season, should be cut back rather freely, likewise any others that will bear this treatment. Shade can now well be dispensed with; therefore, not a spray that can be spared should be left to obstruct the light.

PITS AND FRAMES.

Continue to pot-off cuttings from the first batch of bedding plants. It is important to have Scarlet Pelargoniums established and hardened before winter. Pot Neapolitan Violets, and let them be plunged in a frame. Lily of the Valley for forcing should now be potted, and Mignonette placed on an exposed and warm shelf in the greenhouse. A week or two after the cuttings are struck, let them have a few weeks out of doors if possible. This will revive them much before winter, and will also enable them to bear confinement better. —W. Keane.

DOINGS OF THE LAST WEEK.

What a pity that fine bright weather should ever do harm! For a month or six weeks, we question if the flower beds ever looked more full of bright blossoms, and the foliage, though not massive, was of a healthy green. By the 7th one of our chief reservoirs of water was exhausted, and watering flower beds became quite out of the question. On the afternoon of the 9th the plants in some beds began to flag, though they had been mulched to keep moisture in. We had lightning all night on the 9th, and thunder and rain on the 10th, and though the rain has been a blessing to fields, pastures, gardens, and even eventually to flower gardens, it has in the meantime, in connection with the strong winds in the afternoon, shorn the beds for a time of their beauty. Blooms that would have stood the dryness a few days longer, fell or became blotched under the force of the rain and winds. Some excellent masses of the old Brilliant Pelargonium looked on Saturday morning like so many half-drowned mice. Fortunately we had picked a number of beds, removing the decayed flowers, and these picked beds stood the rains well. If it can be accomplished, it is better to remove such flowers before than after rain, as many faded blooms disfigure and discolour what would be sound blooms. The refreshing showers, the most effective we have had since May, will give us a fine appearance again in a few days, and, if we have a fine open autumn, will render us independent of much rain for some time. The frost hurt us a little, still nothing to speak about, but the drought, notwithstanding all our care, was beginning to tell upon us, and all the more as we were husbanding the little water left. We went over a bed lately to gather a handful of Heliotrope flowers, as these were dropping and withering from the dryness, but now they are coming plump again. The lawn, just showing a little sign of distress, is now assuming its bright green mantle, which helps to make everything look so much better. For some time we have allowed the machines to do no more than just nip the outjutting points, as it is bad policy to cut close in such dry weather. The effects of the rain on the kitchen garden have been such that we shall not need the water barrel, except for fresh-planted crops. Turnips will be greatly benefited.

KITCHEN GARDEN.

Cleared off a part of our crop of *Onions*, placing the bulbs under cover until we find time to string them. Put a little dung on the surface, and trenched it down fully 18 inches, thinking the ground rich enough to bear a heavy crop of Cabbages. In this ground planted our earliest plants intended for the spring, in rows, making a furrow for the plants, so as to hold water. Our Onions, though there is a heavy crop, are not individually very large, and in trenching up the ground our only surprise was, that the bulbs were so fine as they are, as, for the depth specified, the soil seemed to be next to dust-dry; so dry that, though it is rather stiff, it would scarcely lie on the spade to be turned over. Roots of Onions were found, however, deeper than our trenching. There seemed to be a good quantity of sweet decayed dung in the ground, and we preferred giving no more, as too much at this time, if at all rank, is apt to make the plants over-luxuriant in winter, and, therefore, more liable to be injured by severe frosts, and if the weather is very mild, makes them liable to bolt instead of heart in the spring.

Almost every one has his pet vegetable, but commend us to a crisp *Cabbage* in spring, just hearted enough to begin to blanch its heart leaves a little without being hard. To obtain a nice Cabbage early, and yet prevent running to flower, is a matter demanding some consideration, and one means of securing it is to avoid heavily manuring with rank dung at this season. If an Onion quarter was well treated in spring, the dung given now should chiefly go to the bottom of the trench. As rotation, we like Onions to follow Celery, and Cabbage to follow Onions. Without extra preparations, Onions after Cabbages are one of the worst of rotations; under ordinary treatment we should expect to see all the ills to which Onions are liable.

Sowed the last Cauliflowers and Lettuces; we merely scratched the surface of the ground for the latter, and covered with fine soil. These are intended to be thinned, and to stand and perfect themselves in spring. When thinned, it is easy to give a little help from manure then, if deemed necessary. They will withstand the winter all the better if the soil beneath them is comparatively hard and poor. Firm, not luxuriant, growth is desirable. Cauliflower will often succeed well if sown at the foot of a wall, and treated in the same way. In fact, we have often known the plants withstand a severe winter, when those protected by frames and hand-lights had given way. Sowed Radishes, thinned and hoed Spinach, &c.

FRUIT GARDEN.

We shall not be greatly troubled with late fruit on walls this season. Even Plums will soon be over, and we gather them when about ripe, or rather before it, to keep flies and wasps from them. The most forward Apples and Pears are being gathered for use, and such kinds as Williams's Bon Chrétien are gathered at intervals, and forwarded in rotation in a warm place, so as to prolong the season.

ORNAMENTAL DEPARTMENT.

The rains, as already stated, have tarnished for a time the brightness of the flower beds, but less so than might be expected. The dryness of the beds so far increased the evil, as then the flowers and their petals are more easily shaken off. We have often proved that when plants are artificially watered at the roots previously, rains, though heavy, do less injury to the blooms. In our case we saw clearly, that without rain or watering, some of our best beds would not have stood many more days of such scorching weather. There are some plants that no rains will ever hurt, as Heliotropes and Ageratums. Calceolarias are only deprived of the blooms that would soon fall naturally, whilst the very thing is given that will ensure a continuance. Scarlet Pelargoniums with many massive heads of bloom fully ripe, suffer most. The Nosegay section suffer least, and in proportion to the smallness of the petals, as the wind and the rains pass between them. The other kinds suffer in proportion to the size of the truss and of the flowers individually. Here, this season, we observe a difference among the large-petaled kinds, as the scarlets, like Punch, Boule de Feu, Defiance, the old kind of Excellence, &c., have suffered more than the rose-coloured ones, as Trentham Rose, Rubens, Admiral Porteous, &c. Such light scarlets as Donald Beaton have also stood better than the dark scarlets. Donald Beaton is very good as a late bloomer. It does not mass so early as some of the others. The deep pink kinds seem also to stand better than the dark scarlets. In Verbenas the same rule holds good —the largest-petaled flowers feel the effects of rainy weather most. No rains we have seen would affect the trailing Verbena pulchella, except to make it brighter. We have a line of Improved Ariosto that was splendid in the dry weather, but to-day is looking washed and dull, whilst a broad line of Purple King, owing to the comparative smallness of the trusses and flowers, is looking all the brighter. Both wanted moisture at the roots, and both will be fine when we have bright sunny weather. Under ordinary circumstances we may calculate on a fine show for five weeks. We notice that some foreboders of evil are already counselling taking up the best bedding plants. If such work must be done in the beginning of September, then the doom of the grouping system with tender plants must be nearly consummated. With favourable weather we expect increased brilliancy in a few days—but this will mainly depend on sunshine—and that with but little trouble further than picking off some decayed blooms, and removing some of the larger leaves, that there may be a due proportion between flowers and foliage. In the dry weather this was scarcely the case, as some beds, as of Christine pink Pelargonium, were so densely covered with bloom that there was not enough seen of the pretty green

foliage. A due proportion between green and bright colouring is essential to a pleasing effect.—R. F.

COVENT GARDEN MARKET.—September 15.

Heavy arrivals again this week, in addition to large quantities of fruit stripped off the trees by the late gales, have caused a temporary reduction in prices. Cob nuts are plentiful; Filberts not more than enough for the demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	4	0	8	0
Cherries ..... lb.	0	0	0	0	Oranges 100	10	0	14	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	6	0	12	0
Currants .... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	2	0	4	0	Plums ..... ½ sieve	3	6	5	0
Filberts ..... lb.	0	6	1	0	Quinces ..... doz.	0	0	0	0
Cobs ..... lb.	0	6	0	9	Raspberries ..... lb.	0	6	1	0
Gooseberries .. quart	0	0	0	0	Strawberries .... lb.	0	0	0	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts ..... bushel	10	0	16	0
Lemons 100	8	0	12	0	do. 100	1	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Kidney ½ sieve	2	6	4	0	Mushrooms .... pottle	1	0	2	0
Beet, Red ..... doz.	2	0	3	0	Mustd. & Cress, punnet	0	2	0	3
Broccoli ..... bundle	1	0	0	0	Onions .. doz. bunches	4	0	6	0
Brus. Sprouts ½ sieve	0	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	2	0	2	6	Peas ..... quart	0	6	1	6
Carrots ..... bunch	0	8	1	0	Potatoes ..... bushel	2	6	4	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	5	0	0	0
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb ..... bundle	0	0	0	6
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	3	0	0	Tomatoes ..... doz.	1	6	3	0
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	6
Horseradish .. bundle	3	0	5	0	Veget. Marrows .. doz.	1	0	2	8

TRADE CATALOGUES RECEIVED.

E. G. Henderson & Son, Wellington Road, St. John's Wood, London, N.W.—*Autumn Catalogue of Bulbs and Flower Roots, Roses, Fruit Trees, &c.*

Barr & Sugden, King Street, Covent Garden, London, W.C. —*Autumnal Descriptive Catalogue of Bulbs and Plants.*

Thomas Bunyard & Sons, Maidstone.—*Select List of Dutch Flower Roots.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Tomatoes (*I. G.*).—We do not know what you mean by the Tomato "Groseille à grappes." If the fruit is small and black like a Black Currant, it is unsafe; but if it is yellow or red, and the size of a good large Gooseberry it is perfectly wholesome and may be used as the ordinary kinds. (*Dulcibella*).—The same reply will answer your question respecting your "Grape Tomatoes."

Roots in Water Pipes (*C. C.*).—The roots, probably, of some tree, or trees, have entered the earthenware pipes through their joints. We object to lead in any form for the pipes or cisterns to supply water for use, either by human or animal species. We prefer iron, but if the joints of the earthenware pipes were well cemented no roots could enter. Sweet Peas would not be injurious to fowls if they would eat them. Pigeons probably would.

Swiss Lakes (*Philokepos*).—We cannot admit any discussion on the subject.

Fungus on Pear-tree Leaves (*A Subscriber, Devon*).—The large rusty-brown patches with rough papillated surface, are Roestelia cancellata, a parasitical fungus. They are said to be removable by dusting the leaves with flowers of sulphur, and if this is repeated in any year they reappear, they may be entirely prevented. The "Cottage Gardeners' Dictionary" probably would suit you; but you do not state whether information on any particular department of gardening is wished for.

Plants for an Island (*Dorsetshire*).—For the peaty island we advise planting either the Weeping Birch (Betula alba pendula), and not one but a group of not less than three, or the Cut-leaved Alder (Alnus incisa), which would, perhaps, thrive better if the peat be of a boggy nature. Along with these we would plant the Royal Fern (Osmunda regalis), and nothing else. You might, if you wished, have a few plants of common Dogweed (Cornus sanguinea), and its silver and gold variegated-leaved varieties, one of each. The Weeping Willow is fine for such situations, but the soil is more suitable for the Alder and Birch.

Laurels Dying Back (*H. D.*).—When Laurels become old they, like every other tree or shrub, are subject to decay, and though they may start from the bottom the growths are not of very long continuance, but are continually dying-off, more or less. The branches become dried up, and the leaves assume a bright yellow hue, and though fresh shoots may come from the root, the Laurel's term of beauty is gone. It may exist as a pollard shrub for some years, often many, but will never again make a prolonged healthy growth. There are exceptions, however, in those that push suckers from the roots or stem beneath the soil; they form new roots, have a stem of their own, and in the course of a few years become independent of the old stem and root, which in most instances perishes, and will often be found quite decayed amongst the suckers which have attained the size of the old plant and become a large bush. That bush will, after it attains its full size, be liable to the same decay from age as the old plant, and though it in its turn will put out suckers from the root stem, they will not continue healthy. We do not know the cause of the branches dying after being cut back to a healthy shoot, nor of the leaves becoming suddenly yellow. In cutting down old stems it should be done to near the ground, so as to encourage suckers from beneath the soil, so that they may not derive their food through the old stem, or only temporarily, but have a stem and root free of the old stem and root. Digging round, and manuring with old rotten manure mixed with fresh soil, would be beneficial, a portion of the old soil being removed. It is best to cut them, when much pruning is required, in spring before they begin to grow, and at that time only, irregular growths being removed in August. Dead wood may be cut out at any time except when frozen, and never into the live wood.

Exhibiting Fuchsias (*A. J. J.*).—If a prize be offered for six Fuchsias, it is always understood that Fuchsias with all shades of coloured corollas are included, and unless the prize were offered for six dark corollas as distinct from six white-corolla flowers, the white would decidedly be admissible among six varieties of all shades of colour.

Vine Trained Downwards (*J. R. P.*).—Your Vine will do very well trained down the roof, as you propose; but it would be well to daub the slate roof with a paint made of strong soap water, and soot and sulphur, as soon as the Vines break. This will act as a preservative against the attacks of red spider. The Vine shoots will be shorter-jointed from being trained downwards, after the main stem reaches the top of the wall. Hays's constant stove you allude to is not to be had. We have little faith in any stove without an outlet into the open air; but with prepared fuel, and a stove on the principle of Hays's, we should be satisfied with a small outlet pipe, more for gases than mere smoke. But why, if so good, has some one else not made similar stoves, as the original makers seem to have given them up? Chiefly, because there is the endless trouble about the prepared fuel. We would have a Joyce's stove as soon as any if there were a pipe from it. A good iron stove will suit your purpose, and if you use clean coke a small smoke pipe will do. This you can move when not wanted.

Fruits for South Lancashire (*J. Whever*).—*Apples:* Irish Peach, Kerry Pippin, Cellini, Golden Winter Pearmain, Adams's Pearmain, Cox's Orange Pippin. *Pears:* Peach, Beurré Superfin, Doyenné Bonssech, Doyenné du Comice, Fondante de Malines, Forelle. *Plums:* July Green Gage, Peach, Denniston's Superb, Green Gage, Purple Gage, Coe's Golden Drop. These will do very well for growing in large pots or tubs. The Apples should be grafted on any of the stocks known by the name of Paradise stocks, and the Pears on the Quince stock. The Plums you cannot get on any other than the Plum stock usually employed in nurseries. Louise Bonne of Jersey, Citron des Carmes Pears, and Denyer's Victoria Plum will do well with you.

Planting a Flower Bed (*Y.*).—We must adhere to our rule, and only criticise proposed planting, and not plant. Keeping in view what you say you have, the following would be beautiful and telling:—No. 1, Wallflowers; 2, blue Pansy; 3, yellow Pansy; 4, purple Pansy; 5, white Daisies; 6, Vandyke bands, red Daisies; 7, blue Forget-me-not, edging all round white-variegated Arabis; or 7 and edging might be Arabis, but not be so telling.

Plants Damping-off (*Kettering*).—Do away with all plunging material on your platform, and give air as the weather permits. Mask seed sown now will not bloom much early in the spring. Try to obtain a few roots, and pot them. There is no difficulty in raising from seed, but you must keep the soil moist, and cover the seeds very lightly.

Mulberry Tree without Stamens (*H. G. Merriman*).—We have no doubt that your fruit-bearing Mulberry was fertilised from the other tree at a little distance.

One Boiler for Several Houses (*S. H.*).—There will be no difficulty in heating the different houses from one boiler if the position of the ground is suitable, and is either on a level, or rises rather than falls from the position of the boiler. As you must sink the pipes in crossing the open gravel in a tunnel, the easy working of the pipes in all the houses will much depend on having the top of the boiler sufficiently low to be a feet or more beneath the level of the pipes in the tunnel, and in having the main flow and return pipes rising gently from the boiler to the conservatory, instead of dipping at all. There will be no difficulty in this if the ground is nearly level, or rises from the position of the boiler to the position of the conservatory; but if the ground should fall, you would require a deep stokehole. Independently of the expense of a second chimney, we would decidedly prefer having only one boiler at D, and encase the pipes in a tube or tunnel stuffed with sawdust, where they cross beneath the gravel. You can heat each house, beginning at B, separately, by having a flow and return there to act independently, but with liberty to go on to A when you like, that also to have the circulation complete, and then go on to C when wanted. By this means you must have the flow and return through B before it reaches A, and through both before it reaches C, but you need not have more than the two pipes, and these may be 3 inches in diameter if deemed desirable. If would simplify matters, as you require a great heat in B, and a strong heat in A, to take the flow and return at once to A without any valves, &c., and then

stop the circulation to c, unless when wanted. We thus make these two pipes the mains or feeders, and from them we take what we deem necessary for each house. For instance, your Cucumber house may have conveniences for dung in the chamber beneath, as you propose; but, having the hot water, we would dispense with dung, and have two 4-inch pipes beneath each of the two pits, and two pipes above the soil on each side for the top heat that would be required for early Cucumbers. To have plenty of heat in A, you will need three rows of pipes —two flows and one return. Two pipes would do for the conservatory, but three would be better, as in severe weather the two would do little more than keep out frost, and it is advisable never to have the pipes too hot. The outside border of 4 feet will do for the Vines, but we would widen it inside to 5 or 6 feet, and plant inside. You may easily place good soil under your gravel paths.

Brick Arnott's Stove for a Greenhouse (*W. P.*).—We have not a doubt that the brick Arnott's stove will answer admirably. The 3-inch pipe will do for a chimney if the best coke be used, and the pipe be frequently cleaned. For a pipe of this size we use a rod nearly the diameter of the inside, and that cleans better than any kind of brush. All such stoves should have only a short horizontal pipe, not more than from 18 to 24 inches long. Your proposed oblique pipe, if the incline were sharp, would answer; but it would be more complicated than a short horizontal and then an upright pipe at once. You would need more cleaning, and have more trouble with joints. Of course you could have your pipe moveable at the elbow; but for the little additional expense it would be better to have no elbow at all, but take your short horizontal pipe into a box, say of 6 or 8 inches square, and the same in depth. From the top of the box take your upright pipe, have a door in the box on one side, and you can do all the cleaning without moving the pipes. The door can easily be made smoke-proof after each cleaning. When the fire is much used it would be well to put the rod referred to through the pipe every month or so, as a greasy matter will collect and cake the sides. We think a 5-feet upright pipe will answer, but would prefer it one a foot or two more, that the upper end may stand free of the glass, and that end should be protected with a cowl to prevent rain from freely entering. We have made a fixed cowl by bending a broad slip of tin over the end of the pipe, and tying it there with a wire, so as to allow two outlets for the smoke. Very dry wood should be used for lighting. The combustion must be regulated from the ashpit door, especially after the stove is fairly warmed. A great help to the combustion of the smoke is to have a small opening at the top of the furnace door, from one-eighth to one-fourth of an inch in diameter, to be closed with a stopper at pleasure. This allows a stream of air to pass over the top of the fuel, and smoke and gases are thus burned.

Heating a Cucumber House (*Constant Reader*).—Many fine Cucumbers are grown with the help of a strong brick flue. It is always expensive to use hot water for such a small house as one 12 feet by 9, and a lean-to. We cannot tell you the expense, but a boiler would be about 5 *s.*, and 4-inch pipes, without elbows, would be about a shilling a-foot. To heat such a house for early or winter Cucumbers, you would require a bed from 4 to 5 feet wide, and three pipes beneath the bed for bottom heat, and then you would want from three to four pipes the length of the house for top heat—that is, fully 80 feet altogether. For late spring work less piping would do. For your conservatory, as you cannot have a stoke-hole, you had better have a self-contained boiler, which needs no brick-work round; several are advertised in our pages. If the conservatory is small, you might have an iron stove with a pipe through the roof. Could you not heat the conservatory from some of the lower fires in the dwelling-house? The fireplace in the dining-room, with an iron plate at the back instead of brickwork, would almost keep out frost.

Arrangement of a Greenhouse and Vinery (*X. X. X.*).—The best way to arrange such a small vinery and greenhouse, would be to have a path down the middle, and a platform for plants on each side, as the house is rather narrow to walk round. To lose no space, you could have a wide shelf suspended over the pathway. Both divisions would then look alike. You could store many things below the platforms. Your heating will be sufficient for ordinary purposes. You can grow Cucumbers in the greenhouse in summer, but you must take out your greenhouse plants. You will not have heat for early Cucumbers, neither will you have heat enough in the vinery for early Cucumbers. If you must have the boiler and furnace inside the house, you had better have a Riddell's, Marriott's, or Green's boiler. These will need no brickwork. You must use a little care in lighting and cleaning, and there need be no detriment. We do not know exactly about excavating. Flooring is a matter of taste; some use nice gravel, others tiles, others stone slabs, &c. Tiles look very neat; gravel is easily kept clean.

Cyclamen Culture (*A.*).—The corms of all the species and varieties ought to be covered with soil; they will grow if but partly covered, but they do not succeed so well as when covered from three-fourths to an inch deep with soil. We have no experience of the cultivation of Cyclamens in sand and water in glasses, and we do not think it desirable, even if practicable.

Compost for Alocasia metallica (*J. B.*).—It may be grown either in pots or pans, but we prefer pots. Use a compost of one-half fibrous sandy peat, torn to pieces with the hand and left rather coarse, one-fourth fibrous loam, one-eighth charcoal in pieces from the size of a pea up to that of a hazel nut, and a like quantity of silver sand, the whole well mixed. One-eighth of old dry cow dung may be added with advantage. Good drainage is necessary.

Flax Refuse for Orchids (*Idem*).—It is a good manure, and desirable when partially decomposed for mixing with the compost for plants, in the proportion of one-third. We have no experience of it as a compost for Orchids, but think it a likely material, as they seem to thrive in decayed vegetable matter.

Fuchsias not Flowering (*Idem*).—The tips of the Fuchsia shoots enclosed to us are very weak and poor, we think in consequence of the plants having been kept too dry last winter whilst in a state of rest, the wood probably having shrivelled. A little water ought to have been given to prevent that. Cut them down and encourage the shoots from the base. The sprig belongs, we think, to Abutilon venosum, a greenhouse plant, succeeding in a compost of two parts sandy fibrous loam, and one part leaf soil. Prune the plant in spring, keep it dry in winter, and grow it in a light airy position. It is a fine greenhouse plant for late summer or autumn flowering.

Carrots Splitting (*Tilburstone*).—The cause of Carrots splitting is their growth being arrested by dryness, and they become mature. They ought to be taken up and stored in sand in a cool, rather dry place, for if left in the ground after the first moistening of the soil by rains, they begin to grow and split. The Early Horn and all early Carrots are more subject to splitting than the later ones, as the Long Surrey, the best of all Carrots for winter use.

Mealy Bug on Vines (*A. J. J.*).—The fumigation of the house with burning sulphur will kill the mealy bug, and every living thing in the house. Though, perhaps, it might not kill Vines leafless and in a state of rest, it is an experiment we would not advise. The fumes of burning sulphur are destructive to all vegetable as well as animal life. If you mean by "fumigation with sulphur," the painting of the hot-water pipes or flues with sulphur when they are heated to a temperature not exceeding 180°, nor less than 160°, we see no evil in the proceeding; it will destroy the red spider but not mealy bug. The Grapes being cut, we would syringe the Vines forcibly a few times with water at 140°, and this will to a great extent clean the Vines. As the leaves fall they should be collected and burnt; and when they are all off wash the Vines, after freeing them of the loose bark, with water at 140°, clearing out well all crevices and using a rather stiff brush, but taking care not to injure the eyes. After the Vines are pruned repeat the washing, and scrub every part of the house thoroughly with water as hot as can be borne, and 4 ozs. of soft soap dissolved in every gallon of water. The soap water ought not to be put on the glass. Wash the walls with lime and sulphur in equal parts, employing the soap solution for mixing with. Have all the woodwork painted, and then dress the Vines with a composition formed of sulphur vivum, 1 lb.; fresh lime, 8 ozs.; soft soap, 8 ozs., the whole brought to the consistency of paint by adding the tobacco water of the shops undiluted, or that made by pouring a gallon of boiling water over 4 ozs. of the strongest shag tobacco, covering up until cool and then straining. Apply with a brush, rubbing it well into every crevice. To every gallon, add six drops of spirits of turpentine.

Melon Sowing (*S. S.*).—To have Melons early, the seed may be sown in January, but we do not sow, or if we do, only a few seeds, until the beginning of February. Melons succeed well in pots, but the fruit does not attain the same size as on plants turned out. The most suitable pots are those 11 or 13 inches in diameter. The plants should have a bottom heat averaging 75°; not less than 70°, nor exceeding 80°. The top heat may be from 65° to 70° at night in the early stages of their growth, from 60° to 65° further on, and 70° or 75° by day without sun, and from 80° to 85° or 90° with sun and abundance of air.

Wintering Caladiums (*Idem*).—The leaves will decay when the growth is complete, and its completion may be promoted by keeping up a good heat and withholding water, but not allowing the soil to become very dry; even after the plants have died down, a little water should be given occasionally. If the soil be allowed to become dust dry, the roots are apt to become farinaceous, and to rot when water is applied in spring. When at rest they should have a temperature of not less than 60°. From 60° to 65° from fire heat, or at night, will be suitable, though the temperature may at times be lower.

Planting Tea-scented Noisette Roses (*B.*).—"There are no Roses equal to them for earliness, continuity, and lateness of blooming. The most successful are Solfaterre, Gloire de Dijon, Triomphe de Rennes, and Céline Forestier. The first must have a south wall; the others will do well anywhere, with or without a wall, on their own roots, on the Manetti, or on the Briar. I have not Solfaterre here, but the other three are here, and the garden is now (September 13th), full of Yellow Roses. Solfaterre and Céline Forestier require a greater height of wall than 7 feet. For such a height have Gloire de Dijon and Triomphe de Rennes. Céline Forestier is the best of all Roses for a standard. This and Gloire de Dijon are the only Roses that I keep on a Briar; all the others are on Manetti or their own roots.—W. F. Radclyffe."

Cutting-back an Old Yew Hedge (*Alice*).—The best time to cut back the Yew and all evergreens is in spring, before they begin to grow. You may cut it back as much as you like; it will push shoots again from the stem and branches, of whatever thickness or age, and in a short time become quite green again. It is the best of hedge shrubs.

Plants for South Aspect of House (*Idem*).—Akebia quinata, lilac pink; Berberidopsis corallina, red; Billardiera longiflora, red; B. scandens, purple; Escallonia macrantha, red; Garrya elliptica, greenish yellow; and Ligustrum japonicum, white. Common ones are Crataegus Pyracantha and Cotoneaster microphylla, both with white flowers, succeeded by red berries, and having splendid deep green foliage, giving a close mantling.

Select Gooseberries and Planting (*E. R. P.*).—Of the small high-flavoured sorts, Champagne, Yellow Champagne, Early Green Hairy, Keens' Seedling, Red Warrington, and Pitmaston Green Gage. Of the Lancashire, or large sorts, red—Hopley's Companion, Atlas and Crown Bob. White—Sheba's Queen, Wandering Girl, and Ostrich. Green—Thumper, Angler, and Conquering Hero. Yellow—Broom Girl, Marigold, and Husbandman. The best time to plant them is early in November, or as early in autumn as the leaves have fallen. The ground should be well and deeply dug or trenched, and a 3-inch dressing of manure mixed with it. The manure should be well rotted; farmyard manure is best, though stable manure will do, but if the soil is light, preference should be given to cow dung, as it is cool, and retains moisture better than others.

Currants for Walls (*Idem*).—*Red:* Red Dutch, Knight's Early, Knight's Large, and Houghton Castle or Victoria, are the best Red Currants. *White:* White Dutch is the only really good White Currant. They require the same preparation of the soil as Gooseberries.

Replanting Vines (*A Subscriber*).—By replanting the Vines at the end of this month you will obtain a certain amount of root action this autumn, and in that respect they will have an advantage over those planted next March or April. Nevertheless, we consider the latter a better time to lift and plant Vines than the former. If you move them now, no water should be given this autumn beyond that needful at planting to settle the soil about the roots, and they ought to have a gentle heat, putting on fire in the day only, with abundance of air, until the leaves are all off. It will be well if you can remove them and get the wood properly ripened without inducing second growth, but we doubt that as the border is outside. We recommend you to plant in March.

Destroying Leather-jackets (*Idem*).—We do not know of any other

mode of destroying them except hand-picking. It is a tedious but certain mode of clearing them off.

Various (*S. P.*).—Beaumontia grandiflora is a subscandent evergreen stove plant, with whitish flowers in June. Pot it in spring in one-half sandy peat, one-fourth fibrous loam, one-eighth charcoal, in pieces not larger than a hazel nut, and one-eighth silver sand. Keep it moist, and do not overwater, or rather water sparingly, until the roots are working freely in the fresh soil, then water freely. In winter keep the plants dry. For the culture of Dioonea muscipula, see vol. xvi., page 247. Nepenthes are ornamental plants, bearing pitchers at the ends of the leaves when vigorous. They require a moist stove, and a compost of fibrous peat, chopped sphagnum, charcoal or broken pots, in equal parts, well mixed. Drain the pots well, and set them in a saucer of water when the plants are growing, keeping the atmosphere very moist. In winter keep the plants drier. Afford them partial shade in summer. Gymnostachyum Pearcei and Verschaffeltii grow in large shallow pans, in a compost of one-half sandy fibrous peat, one-fourth turfy light loam, and one-eighth broken charcoal, the rest crocks broken rather small, and silver sand. Drain the pans well, keep both the soil and the atmosphere moist in summer, and avoid wetting the foliage by syringing. Train the shoots over the surface of the pans, and in winter keep rather dry. They require a stove. Cut down the Cyanophyllum magnificum to the eyes next the soil in February, make a cutting of the shoot, and you will have a better old plant, and a young plant which, with good cultivation, will be finer than it before autumn. Charcoal is best made from Oak, but Elm, Ash, and all hard woods are good for the purpose.

Insects Attacking Peas (*O. W.*).—Your Peas saved for seed have been attacked by the larvæ of the white-shouldered moth, Tinea sarcitella, common in houses. Keeping them in dry sand would prevent the moth from depositing her eggs on them; but care must be taken to cover them to the depth of at least half an inch below the surface of the sand.

Pear Leaves (*E. H.*).—The rust-coloured spots on your Pear leaves are caused by a disease of the tissues of the tree. The "minute eggs," as you miscall them, are vegetable pustules. Possibly they may be caused by insufficient drainage at the roots of the tree.

Names of Fruit (*Rev. E. H.*).—Your Grape is Stillward's Sweetwater. (*J. Hunt*).—Your Pear is Doyenné Blanc.

Names of Plants (*Mary Capstick*).—1, If a Fern, impossible to determine from the scrap sent; 2, Tradescantia virginica. (*J. E., Oswestry*).—An abnormal state of Ulmus montana. (*H. D.*).—Plum crushed, but probably the Woolston Black. 1 and 2, Hibiscus syriacus; 3, Ceanothus azureus. (*T. V. L.*).—Achillea Millefelium. No. (*Lady Hylton*).—Polystichum angulare var. lobatum. (*Devon*).—1, Dactylis glomerata variegata; 2, Molinia cærulea variegata; 3, Nepeta Mussinii; 4 and 5, insufficient for naming—4 (a solitary flower), is a Dracocephalum, probably peregrinum; 5, a Helichrysum. (*M. H.*).—1, Aster puniceus; 2, Sedum spectabile.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 14th.

Date.	Barometer.		Thermometer.				Wind.	Rain in inches.	General Remarks.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 8	29.773	29.759	78	52	64	59	S.	.09	Overcast; fine, but cloudy; densely clouded.
Thurs. 9	29.753	29.731	74	56	65	59	S.	.42	Cloudy; very fine, showery; thunder, lightning, and rain.
Fri.... 10	29.376	29.268	71	48	62	59	S.	.24	Showery; stormy and boisterous; heavy rain.
Sat.... 11	29.482	29.073	70	51	61	59	S.	.70	Very fine; fine, but cloudy; boisterous with rain.
Sun... 12	29.538	29.081	63	49	60	58	W.	.14	Stormy and very boisterous; exceedingly boisterous; clear and cold.
Mon... 13	29.740	29.269	65	51	59	58	W.	.24	Boisterous; exceedingly boisterous; clear, starlight.
Tues.. 14	29.793	29.632	68	56	58	57	S.W.	.18	Rain; overcast; boisterous, slight rain.
Mean..	29.636	29.402	69.86	51.71	61.29	58.43	...	1.92	

POULTRY, BEE, AND PIGEON CHRONICLE.

A POULTRY SHOW FOR LONDON.

It has always been a mystery to me why we in London have not our annual poultry, Pigeon, and Rabbit show. We read in the Journal of country towns, some of them with a population of only a few thousands, having their annual shows; of valuable prizes being offered, of numerous entries being obtained, of a good show of birds and Rabbits being the result, and of the whole proving most successful. Here we have nothing of the kind, except one tried this year at Peckham, which I am sorry to hear was financially a failure, owing, no doubt, to its being held in such an out-of-the-way place. It appears there will be no attempt to renew it. This absence of an annual and a successful show cannot be through any want of public interest in fowls or Pigeons. In London and its suburbs are to be found some of our most famous poultry and Pigeon-breeders, our railways connect us with all parts of the United Kingdom, we possess a larger population than any other city, and there is no want of interest in poultry and Pigeon-breeding, for go in whatever direction you may—to the most densely crowded, or to the more aristocratic parts of the metropolis, and you are nearly sure to see or hear poultry or Pigeons. Here we have the best cattle, horse, and bird shows; then why not our poultry show?

What we want is an energetic committee, composed of really practical men, who are acquainted with the management and treatment of birds and Rabbits, and are men of business, who feel an interest in what they have taken in hand, and not men who are only calculating on how much they can get out of the affair, or how much beer or gin they are likely to obtain from this or that successful exhibitor. What is more annoying, or sooner disgusts a man, than to be bothered by a number of half-drunken hangers-on, who follow him, and keep dunning for drink? and yet we often find this at some of our shows. A place for the show should be chosen somewhere in the centre of London, easy of access by rail or omnibus. The time should be during the Cattle Show week, for then we have our country cousins with us, who would gladly patronise our show, both by sending us their birds for exhibition, and by their own presence. I venture to say a show held about that time, well managed, would turn out a success, and would become the first show in the kingdom.

My reason for writing is to try to ascertain the feelings of some of your readers, also to induce some of our well-known breeders to take the matter up. If a meeting of those who feel an interest in such an exhibition could be arranged, something might be done.—An Amateur.

WHITBY POULTRY SHOW.

The thirty-fifth annual Show of the Whitby Agricultural Society was held September 8th, in a field admirably adapted for the purpose. The day was all that could be desired, and there was a much larger attendance than in former years. The receipts at the gates were upwards of £122, being about £37 more than last year.

The poultry entries amounted to 279, a less number than last year, but the quality of the birds shown in most of classes was first-rate. The Show was in all respects well managed by the Secretary, who is ever ready to give any information.

The *Dorkings* were of very middling quality. The first-prize chickens were the best in the two classes, and a pen belonging to Mr. Burn would have been second but for the cock having spurs on the outside of his legs; in other respects it was a good pen. The *Spanish* were not so good as we had expected to see, but the prize pens were fair. The prize pens of *Game* were very good and in good condition; the rest of the classes only of average merit. The *Cochins* were not good. The *Brahmas* were much better than the Cochins, and all were Dark. Of *French* fowls, Mr. Quibell's pen of Houdans was good. The second prize was awarded to Crève-Cœurs. Many of the *Hamburghs* were very good, more particularly the chickens. Mr. Walker showed some very good pens, also Mr. Holmes. Some of the *Bantams* were very good.

The Rouen *Ducks* were an excellent class, and fifteen pens competed; four were highly commended. Some of the Aylesburys were very good, also the Black East Indians, which had a separate class. In the class for "Any other variety," both prizes went to Carolinas, the Mandarin being quite out of plumage, but in other respects very good. The *Geese* and *Turkeys* were very good.

The *Pigeons* were good, and attracted great attention from the lady visitors. The *Rabbits* were not numerous, but some good specimens were shown.

Dorking.—1, H. Smith. 2, W. Bearpark. *Chickens.*—1, G. F. Wormald. 2, Rev. G. Hustler.

Spanish.—1, G. Holmes. 2, T. E. Pymad. *Chickens.*—1, S. Burn. 2, J. B. Stephenson.

Game.—1, H. M. Julian. 2, J. Walker. *Chickens.*—1, G. Penuder. 2, T. Blackburn.

Cochin-China.—1 and 2, T. H. Readman. *Chickens.*—1, T. H. Readman. 2, E. Noble

Brahma Pootra.—1, E. Leech. 2, J. Walker. 3, C. Layland.

French.—1, W. O. Quibell. 2, C. Layland.

Hamburghs (Golden-spangled).—1, G. Holmes. 2, J. Walker. *c*, G. Garbutt.

Hamburghs (Silver-spangled).—1, G. Holmes. *Chickens.*—1 and 2, J. Walker.

Hamburghs (Golden-pencilled).—1, J. Walker. 2, G. Holmes.

Hamburghs (Silver-pencilled).—1, G. Holmes. 2, T. H. Readman.

Chickens.—1, J. Walker. 2, J. Webster. *c*, T. H. Readman; G. Garbutt; J. Walker.

GAME BANTAM.—1 and 3, W. F. Entwisle. 2, J. Duggleby.

BANTAM.—1 and 2, T. C. Harrison. 3, S. & R. Ashton.

BANTAMS (Any other variety).—1, R. Loft. 2, G. D. Yeoman. 3, W. Usherwood.

DUCKS (Black East India).—1 and 2, S. Burn.

DUCKS (Aylesbury).—1, E. Leech. 2, W. Stonehouse. *c*, O. A. Young; W. Stonehouse.

DUCKS (Rouen).—1, G. Garbutt. 2, — Stott. *c*, O. A. Young; Mrs. C. Stamper; T. P. Scoby.

DUCKS (Any other variety).—1, J. Walker. 2, T. C. Harrison. *hc*, S. Burn.

GEESE.—1, Rev. G. Hustler. 2, — Stott. *hc*, E. Leech; O. A. Young.

GEESE.—1, O. A. Young. 2, Rev. G. Hustler. *hc*, J. Wilkinson.

TURKEYS.—1, O. A. Young. 2, Mrs. W. Ward. *c*, J. H. Allen.

TURKEYS.—1, J. Plews. 2 and *c*, Mrs. W. Ward.

ANY VARIETY.—1, W. English. 2, R. E. Stratford. 3, G. Holmes.

PIGEONS.—*Pouters.*—1 and 2, E. Horner. *Tumblers.*—1, J. Hawley. 2, H. Yardley. *Carriers.*—1 and 2, E. Horner. *Fantails.*—1, J. Hawley. 2, J. F. Loversidge. *c*, E. Horner; W. H. Tomlinson. *Jacobins.*—1 and 2, E. Horner. *Trumpeters.*—1, J. Crndale. 2, E. Horner. *c*, J. Hawley; R. Wilson. *Barbs.*—1 and 2, E. Horner. *Any other Variety.*—1, J. Hawley. 2, R. Wilson. *c*, H. Yardley. *Selling Class.*—1, Hudson & Burnip. 2, C. Gravil.

RABBITS.—*Yellow and White, or Tortoiseshell.*—1, C. Gravil. 2, R. Hudson. *Any other Variety.*—1, G. S. Hudson. 2, R. W. Andrew. *Selling Class.*—1, C. Gravil. 2, W. Donkin.

JUDGES.—Mr. Adams, of Beverley; and Mr. James Dixon, of Bradford.

MARKET DRAYTON POULTRY SHOW.

THE entries for this Show, held on the 10th inst., were unusually limited, and it appears that the time of holding the Exhibition was known to but very few poultry amateurs. We would suggest another season more publicity, and cannot but imagine, were the Show properly advertised, the entries might easily be quadrupled. There were, however, many most excellent pens. The Duke of Sutherland's two pens of *Hamburghs* were especially good. There were also some first-rate *Game*, *Crève-Cœurs*, *Dorkings*, and *Dark Brahmas*. The *Geese* and *Ducks* were one of the chief features of the Market Drayton Show. Perhaps another year the most beneficial rule would be to let the competition be open to birds of any age. It would beyond question greatly increase the number of entries, and prevent the annoyance several exhibitors felt on this occasion from the disqualification of adult specimens, as this Exhibition was restricted exclusively to chickens. The forenoon of the Show day was fine, but the evening was most unfavourable.

GAME COCK.—1, R. Ashley, Nantwich. 2, W. Perrin, Nantwich (Brown Red). *c*, T. Eaton, Audlem (Cheshire Pile); J. Platt, Swanlow.

GAME (Black or Brown Red).—1, R. Ashley. 2, T. Eaton (Brown Reds). *hc*, G. F. Ward, Wrenbury, Nantwich (Brown Reds). *c*, W. Miller, Wybonbury, Nantwich (Brown Reds).

GAME (Any other variety).—1, R. Ashley. 2, T. W. Jones, Wellington, Salop (Duckwings).

DORKINGS.—1, Viscount Hill, Hawkstone (Silver-Grey). 2, J. Edwards, Wellington (Greys). *c*, J. Edwards (Greys); Miss E. Williams, Henllys, Berriew (White Rose-combed).

HAMBURGHS (Gold or Silver-spangled or Pencilled).—1 and 2, Duke of Sutherland. *hc*, T. May, Wolverhampton (Golden-spangled).

ANY OTHER DISTINCT VARIETY.—1 and *hc*, W. B. Etches, Whitchurch (Dark Brahma Pootras). 2, Miss E. Williams (Crève-Cœurs). *c*, F. E. Hume, Market Drayton (Game Bantams).

DUCKS.—1, Mrs. M. Hornby, Swanlow (Aylesbury). 2, H. B. Clive, Market Drayton (Aylesbury). *c*, H. R. Corbet, Adderley Hall (Buenos Ayres).

GEESE.—1 and 2, W. Mate, Market Drayton. *hc*, J. Edwards; H. Pooler, Calvington, Newport (White).

TURKEYS.—1, H. R. Corbet. 2, Viscount Hill (American).

Edward Hewitt, Esq., of Sparkbrook, Birmingham, was the Judge.

LEIGH POULTRY SHOW.

THIS was an admirable and well-conducted Show, and the entries embraced a large number of the best pens of poultry. The weather on the day of the Show, the 8th inst., was exceedingly fine, and the attendance a great improvement on that of previous years. From some delay in transit, a large number of most excellent pens did not arrive until long after all the prizes had been awarded and the final returns made by the Judges, although the Committee, hearing of the delay, awaited their arrival till some hours after the time appointed to commence judging. Quite unexpectedly, one of the best filled of any of the classes, both in respect to numbers and quality, was that for *Polands*. These were in first-rate feather, and comprised all the general varieties of Polands, and the visitors were much interested in so perfect a display.

GAME (Black-breasted Red).—1, C. W. Brierley, Middleton. 2, J. Halsall, Ince.

GAME (Brown Red).—1, C. W. Brierley. 2, R. & W. Barton, Westleigh.

GAME (Any other variety).—1, C. W. Brierley. 2 and *c*, J. Halsall (Piles and Duckwings).

SPANISH (Black).—1, C. W. Brierley. 2, Burch & Boulter, Sheffield. *hc*, W. Gamon, Chester; N. Cook, Chowbent.

COCHINS (Buff).—1 and 2, W. A. Taylor, Manchester.

COCHINS (Any other colour).—1 and 2, W. A. Taylor (Partridge). *hc*, E. Shaw, Plas Wilmot, Oswestry (Partridge).

BRAHMA POOTRA.—1, E. Leech, Rochdale. 2, C. Leyland, Morrisbrook, Warrington.

DORKINGS.—1, J. Stott, Healey, Rochdale. 2, E. Shaw. *hc*, J. Partington, Leigh. *c*, E. Leech.

HAMBURGHS.—*Golden-pencilled.*—1, T. Wrigley, Tonge Hall, Middleton. 2, H. Pickles, jun., Earby, Skipton. *hc*, W. Clayton, Morton Bank, near Keighley. *c*, Burch & Boulter. *Silver-pencilled.*—1, H. Pickles, jun. 2, J. Platt, Deane. *Golden-spangled.*—1, H. Pickles, jun. 2 and *hc*, T. Walker, jun., Denton, Manchester. *Silver-spangled.*—1, W. A. Turner, Manchester. 2, H. Pickles, jun.

POLANDS (Any variety).—1, H. Pickles, jun. 2, J. Partington (Silver-spangled). *hc*, H. Smith, Westleigh; W. Gamon, Chester; J. Partington (Silver-spangled). *c*, T. Wakefield, Golborne; W. Gamon.

GAME BANTAMS.—1, J. Morris, Rochdale. 2, J. Henshall, Salford. *c*, G. Anderton, Accrington.

BANTAMS (Any other variety).—1, S. & R. Ashton, Mottram. 2, Miss N. Platt, Deane (White rose-combed). *c*, T. Walker, jun (Black); H. Pickles, jun.

ANY OTHER DISTINCT BREED.—1, C. Leyland (French). 2, T. Walker, jun (Black Hamburghs).

GAME (Any variety).—*Cock*—1, C. W. Brierley. 2, P. West, Abram, Wigan. *Cockerel*—1, J. Eaves, Prescott. 2, J. Halsall (Black Red). *hc*, A. Haslam, Close Lanes, Hindley.

BANTAM (Any variety).—*Cock*—1, J. W. Morris. 2, Harewood & Buckley, Accrington (Black Red Game). *Pullet.*—1 and *c*, A. Haslam. 2, J. Thomason, Westleigh. *hc*, J. Halsall (Black Rod Game).

SELLING CLASS.—1, C. W. Brierley, Middleton. 2, S. Farrington, Chatmoss, Astley. *hc*, E. Shaw.

DUCKS (Aylesbury).—1, H. Pickles, jun. 2, E. Leech.

DUCKS (Rouen).—1, E. Leech. 2 and *hc*, W. Gamon, Chester.

DUCKS (Any other variety).—1 and 2, C. W. Brierley. *hc*, S. & R. Ashton, Mottram.

GEESE (Any colour).—1, E. Leech. 2, H. Ratcliffe, Fearnhead.

TURKEYS (Any colour).—1, E. Leach. 2, J. Bent, Bradshawleach, Pennington.

EXTRA STOCK.—Extra prize, J. Lang, Hindley (Fallow and White Doe Rabbit).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, and Mr. Elijah Smith, of Middleton near Manchester, were the Judges.

MORPETH POULTRY SHOW.

THE following awards were made at this Show, held on the 9th inst.:

GAME (Any variety).—1, G. Taylor, Sleekburn (Black Red). 2, M. Bullock, Morpeth (Black Red).

GAME (Black-breasted or other Reds).—1, D. Nichol, Morpeth. 2, M. Bullock.

GAME (Any other variety).—2, D. Nichol.

DORKINGS (Any variety).—1, J. Sim, West Cramlington. 2, J. O'Leary, Morpeth.

COCHIN-CHINA (Any variety).—1, J. Dodds, Netherton (Buff). 2, T. Fenwick, Netherton New Row. *hc*, J. Yellowley, Barrington Colliery (Partridge).

BRAHMA POOTRAS.—1, J. Stalker. 2, Mrs. Davie, Hepscott Red House.

SPANISH.—1, Cup, and 2, J. Stalker.

HAMBURGHS.—*Golden-spangled.*—1, W. Dixon, Choppington. 2, G. Stalker. *hc*, G. Johnson, Choppington. *Silver-spangled.*—1, Stephenson and Cheyne. 2, Cook & Stalker, Bebside. *hc*, C. Armstrong, Bebside; D. Cheyne. *Gold or Silver-pencilled.*—2, W. Hall (Golden-pencilled).

ANY OTHER VARIETY EXCEPT BANTAMS.—2, T. Thornton, Bebside (Black).

GAME BANTAMS (Black-breasted or other Reds).—1 and 2, G. Dowie, Netherton Colliery (Black-breasted Red). *hc*, W. Ramsay, West Cramlington (Black-breasted Red).

ANY OTHER VARIETY EXCEPT GAME.—1, T. Thornton (Black). 2, J. Robson, Bebside (Sebright). *c*, W. J. Thompson, Woodhorn Manor (Black Bantams).

DUCKS.—*Aylesbury.*—1, Mrs. Davison, Eastmills. 2, D. Nichol. *Rouen.*—1, Miss F. Wilson, Woodhorn Manor. 2, Mrs. Davie. *Any other Variety.*—1, J. Simm, West Cramlington. 2, Mrs. Davie.

SELLING CLASS.—1, J. Stalker (Black Spanish). 2, D. Cheyne (Golden-pencilled Hamburghs). *hc*, J. Neasham (Golden-spangled Hamburghs); W. Cowens, Morpeth (Silver-spangled Hamburghs).

Cup for best pen in the show.—J. Stalker.

JUDGE.—Mr. Shorthose, Hartford Bridge.

CROOK POULTRY SHOW.

THIS took place on September 8th, and was much larger than any previous Show held at the same place. The winning *Spanish* and *Hamburghs* were in splendid condition.

GAME (Black-breasted or other Reds).—1, W. Bearpark, Ainderby. 2, A. Buglass, Carville.

GAME (Duckwings or other Greys).—1, J. Robson, Bishop Auckland. 2, R. Wilkinson, Stanhope. *Chickens.*—1, R. Williamson. 2, T. Butterfield.

SPANISH.—1, W. Bearpark. 2, A. Young. *hc*, Mrs. Sanderson. *c*, W. Burn, Hope Street. *Chickens.*—2, A. Buglass.

DORKINGS.—1, W. Bearpark. 2, T. Hymers, Birtley. *hc*, J. T. Prond, Bishop Auckland. *c*, J. Armory, Gibbet Hill, Witton. *Chickens.*—1, W. Bearpark. 2, A. Young. *hc*, J. Armory. *c*, Miss Hull, Ball Hill, Brancepeth.

BRAHMA POOTRAS.—1, T. W. Kilburn, Bishop Auckland. 2, W. Bearpark. *hc*, Rev. G. Lloyd, Crook. *c*, Miss D. D. Shafto, Brancepeth Rectory. *Chickens.*—1, G. Bell, North Beechburn. 2, T. Mitchell. *c*, J. Bird, Brancepeth.

HAMBURGHS (Golden-pencilled).—1, M. Ridley, West Peakfield. 2, J. Wilson. *Chickens.*—1, W. Bearpark. 2, R. Moore.

HAMBURGHS (Silver-pencilled).—1, J. Taylor, Bollihope. 2, M. Ridley. *Chickens.*—2, W. Whitfield.

HAMBURGHS (Golden-spangled).—1, W. Bearpark. 2, J. Potts. *hc*, J. Sanderson, Wolsingham. *c*, G. Bruster, Byers Green. *Chickens.*—1, R. Moore, 2, T. Mitchell.

HAMBURGHS (Silver-spangled).—1, R. Moore. 2, T. Hymers, Birtley. *Chickens.*—1, W. Bearpark. 2, R. Moore. *c*, J. Gardner, Frosterley.

BANTAMS.—1. A. Buglass, Carville. 2, T. Mitchell, Mount Pleasant.
GEESE.—1, M. Heslop, Harthope Mill. 2, Mrs. Hedley, Quarry Burn.
DUCKS (Aylesbury).—1, G. Allison, Park Wall. 2, M. Harrison, Warter, Pocklington. *hc*, A. Young, Driffield; Mrs. Sanderson.
DUCKS (Any other breed).—1, A. Young. 2, J. Emmerson, Low Jeffies.
TURKEYS.—1, G. Thompson, Bog Hole Farm. 2, Mrs. Sanderson, Bradley Hall.
EXTRA CLASS.—1, Miss D. D. Shafto (Cochin-China). 2, J. Hardy (White Cochin chickens).
PIGEONS.—1, R. Thompson, Sunnybrow. 2, G. Adamson.
JUDGE.—Mr. F. Greathead, Darlington.

DOVER FANCY RABBIT SHOW.

THE fourth half-yearly Show was held, September 1st, at the Wellington Inn, Biggin Street. The show of prize Rabbits was exceedingly good, and demonstrated that there were many strong and practical breeders connected with this now well-known society. It gave great satisfaction to the numerous company that attended on the occasion.

LENGTH OF EARS.—Mr. Stanton, fawn doe; 21¾ by 5 inches; weight, 9 lbs. 6 ozs. Mr. Wherwell, fawn doe; 21½ by 4¾ inches; weight 6 lbs. 9 ozs. Mr. Burton, yellow and white doe; 21 inches; weight 9 lbs. 4 ozs.
ALL PROPERTIES.—1, Mr. Jasper, black and white buck; length of ears, 19½ by 4¾ inches; weight, 4 lbs. Mr. Barwick, yellow and white doe; 21 by 4¾ inches; 7 lbs. Mr. Corry, tortoiseshell doe; 20 by 4¾ inches; weight 8 lbs. 5 ozs. Mr. Everest, grey and white doe; 18½ by 4½ inches; weight, 6 lbs. Mr. Thorne, fawn doe; 20¾ by 4¾ inches; weight, 6 lbs. 12 ozs. Mr. Pritchard, fawn buck; 20¼ by 4½ inches; weight, 8 lbs.
WEIGHT.—Mr. Young, tortoiseshell doe; 20 by 4½ inches; weight, 10 lbs. 6ozs.

The Judges were Messrs. Whorwell, Stanton, Burton, and Everest. —(*Dover Chronicle.*)

SUBURBAN PIGEONS AND FOWLS A CENTURY AND A HALF AGO.

GAY, in his "Epistle to the Earl of Burlington," in which he so amusingly details his equestrian ride to Exeter, says—

> "Then Turnham Green, which dainty Pigeons fed,
> But feeds no more, for Solomon is dead.
> Three dusty miles reach Branford's tedious town—
> For dirty streets and white-legg'd chickens known."

A foot-note says, "Solomon was a man famed for feeding Pigeons." Is anything known about him? and are chickens still a Brentford export?—VECTIS.

"DROPSY" IN BEES.

MR. WOODBURY in an article which appeared in the Journal of December 26th, 1865, described as a new disease under the name of "dropsy," a malady which he supposed to have been previously unnoticed by apiarian writers. To this view of the complaint I took exception at the time, believing it to be identical with what had long been known as dysentery; but I now confess I was altogether in error, and I might at once have perceived my mistake if I had given due consideration to his statement that, "all through spring and during the finest summer weather the ground in front of the hives was perpetually covered with hundreds of disabled and dying bees, which crawled about in all directions." Dysentery seldom if ever attacks bees during the finest summer weather, and when a hive is afflicted with it, a few fine days are generally sufficient to restore it to health.

This disease may be said to be at an end as soon as the overloaded bees have discharged themselves; but it is not so in "dropsy," where the parting with its contents gives the afflicted bee no relief. Although the general characteristic of the complaint is a swollen abdomen filled with a watery fluid, there are also amongst the sufferers great numbers with little visible enlargement that are yet unable to do more than hobble over an inch or two of ground and make a feeble movement with their wings. In crawling out of the hive they appear very sensitive to cold, and will often turn back.

Their bodies, too, have a glistening appearance as if covered with perspiration, forcibly reminding one of a plague of former days called the "sweating sickness." But as Mr. Woodbury has given so full and so accurate an account of the malady in the article referred to, I shall briefly state what recently came under my observation, as I think it corroborates the truth of what he has there narrated, and any tyro in bee-keeping may put in practice the simple mode of cure prescribed.

My first experience of "dropsy" commenced in January last. When walking round my apiary towards the close of the month, I found one of the hives in a state of fever-heat, and buzzing as loudly as it often did in summer. The outer glass, which should have been cold, felt quite warm to the touch, and the bees showed evident symptoms of distress by retiring from the entrance the moment they approached it. I did not at the time apprehend mischief, but in the course of a few days a fearful mortality set in. Bees unable to fly hobbled to the edge of the landing-board, and fell to the ground. On elevating the hive I found the board much soiled, and covered with hundreds of dead and dying. These were immediately cleared-off, the board was washed and dried, and the first favourable opportunity seized for feeding with honey and port wine, which was quickly deposited in the combs. But this nostrum, although a fine day occurred at intervals, allowing such bees as were disposed to go out for an airing, had no effect on the health of the hive. All through February and March the daily death-rate would average two hundred.

The hive had been in splendid condition, and was not only full of bees on the 28th of January, but three of its combs were filled with brood in all stages. On the 19th of March the population was reduced to a mere handful, covering only a portion of two combs. In the short space of six weeks I am persuaded more than 10,000 bees perished, and I conjecture that the whole of the old inhabitants died-off, and that the young bees coming forward in the early part of February alone survived. Egg-laying was entirely suspended, and at the date last mentioned, there was no brood, save two, which were ready to leave the cells. I gave up the hive as lost, but in the beginning of April a bee might be seen to go out occasionally and return with pollen. Contrary to all expectations the hive rallied, its progress towards prosperity was amazingly rapid, and on the 30th of June it was able to send out a good swarm.

Though I give an account of the ravages made in this single hive only, I must add that the malady in question attacked other hives successively in March, April, and May. In two of them the queens perished. One hive in particular escaped a visitation till the middle of May. On the 19th of May, when I left home for ten days, it promised to swarm before any of its neighbours; but when I returned on the 30th I found it one of my weakest, and the ground in front of it literally covered with thousands upon thousands of dead bees. Towards the middle of June I found on examination the brood in two frames, which the small and reduced population could not cover, quite dead, and some of it in a decaying state. A drone comb, which was empty, intervened between these two frames and the other brood combs. I left these frames containing decaying brood in the hive, and I am happy to say that on making an inspection of them on the 19th of August, no evil results had followed.

Owing to the late period of the season when the hive in question was seized with dropsy, there was no return from it in the shape of supers or honey, but it recovered sufficient strength to enable it to lay up ample store for the winter, and it is now as populous as could be desired. There were two swarms among my early casts that carried the complaint with them, but they threw it off in less than a week. Not, however, until the middle of July did it entirely disappear from my apiary, and its departure could not be said to be due to any remedial measures that were employed on my part. I have now the satisfaction of knowing from an experience extending over five months, that the complaint which Mr. Woodbury described and designated "dropsy," is specifically distinct from dysentery, and that however closely it may resemble the latter in some of its features, it is yet far from being identical with it.

Though I could not be said to have tried the cure recommended by Mr. Woodbury for the malady, I have no doubt it will be found amenable to the process he adopted, which was, after securing the safety of the queen, to remove the hive to a little distance, and plant an empty box in its room. This done, the bees are to be brushed off each comb on to a cloth, and each comb when divested of bees is to be placed in the empty box. As the bees that are able to fly will return to their accustomed stance, the diseased ones will be left to perish, and the hive, thus purified by having the whole separated from the sick, will afterwards enjoy health.—R. S.

P.S.—I forgot to mention in my last, that by letting fall two or three drops of carbolic acid within the hive, swarms might be made to go together peaceably, and an end put to hostilities.

FEROCITY OF INDIAN BEES.

MANY stories have already been related in "our Journal" illustrative of the ferocity of the large Indian honey bee, *Apis dorsata*. To these I now add the following:—

The first is extracted from a note just received from an

Indian officer, at present residing in my neighbourhood:—"In my last letter from India I hear that an officer of my regiment has just arrived in Cashmere after a fearful march through Chumba, where he was attacked by a swarm of bees. He took off his coat, and tried to defend himself with it as long as he could, but the venomous brutes got round him, and he had to execute 'a retrograde strategic movement,' followed by the infuriated insects for four miles and a half, when his powers of 'running drill' being exhausted, he had to give in and let them have their wicked will of him, the natural consequence of which was, that he got fever very badly, and had to be carried into Islamabad in a jampan, constructed of branches of trees and grass rope. Not a bad story of real life in the gorgeous Himalayas! Sweet things, our Indian bees, are they not?"

Another Indian letter says:—"The wild bees of India are very dangerous customers, as they attack any animal that happens to disturb them, and it is even said elephants have died from the inflammation caused by their stings. Two years ago, in Agra, the R——'s lost both their carriage horses at the church door on Sunday morning, and the coachman was very nearly killed too. Fortunately the other people had all left, or it would have been much more serious. Something disturbed one of the nests in the church steeple, and the bees all settled on horses and carriage."

General Sir Andrew S. Waugh, late Surveyor-General of India, who was on the Committee of the Geographical Section of the British Association during its recent visit to our ancient and loyal city, also informed me that these bees were the great enemies of tiger-shooters, for if by any chance, during their progress through the forest, the elephant happened to shake a tree in which was one of their nests, down would come the bees, and off would go the elephant crashing through the jungle in uncontrollable terror, whilst the overhanging branches swept everything and everybody from his back. On mentioning this to the writer of the note first quoted, he fully confirmed it, and described how on one occasion a gentleman, weighing at least 14 stone, and therefore as remarkable for his bulk as his bravery, was discovered in a most unenviable predicament, clinging for dear life, with the wind knocked out of him, to a branch of a tree, some dozen feet from the ground, and from which he was afraid to drop, as much out of regard for his limbs as from the dread of certain imaginary tigers which he fancied were prowling around him in all directions. After assisting him to descend from his uncomfortable perch, it was found that he had been incontinently deposited thereon in the course of an elephantine stampede, produced by bees.—A Devonshire Bee-keeper.

TOMATO SALAD.

As there is every probability of a good crop of tomatoes again, I thought perhaps that some of your readers may be glad to know that, independently of making an excellent sauce and a splendid jam, they also make a most delicious salad, the recipe for which is as follows:—Slice ripe tomatoes very thin into a soup-plate; take a little salad oil, vinegar, ground ginger, pepper, salt, and a little sugar; mix all together, and pour on to the sliced tomatoes.

It may be eaten with fish, hot or cold meat, or cheese. Those who are fond of the taste and perfume of onions may take a very small piece, cut very fine, and add to the above, which is decidedly an improvement if not overdone.—John Perkins, *Thornham*.

OUR LETTER BOX.

Catarrh, or Cold, in Chickens (*J. Y.*).—We believe your chickens are suffering from scorching days and frosty nights. This occasions the catarrh and cough. A slight stimulant will relieve it. Strong beer and camphor are both good. Houses that were only partly ventilated when the glass was at 70°, are more than sufficiently so when it falls, as it has done within the last fortnight, to 34°. Treat your chickens as you would yourself, avoid sudden changes of temperature, and do not neglect the premonitory tickling in the throat.

Golden-spangled Polands—Vertigo (*Cottage Gardener*).—You will find entries of Golden-spangled Polands only at the large shows. They are not remunerative classes, and small shows cannot afford them. Any of the principal dealers will supply them. Fowls suffer from vertigo from deranged insides. In extreme cases, bleed at the root of the comb, you will find the blood black, let it bleed till it becomes florid. When the case permits, it is better to proceed by means of purgatives, none is more effectual than castor oil. Dose, a tablespoonful, to be continued daily till a cure is effected.

Cochin-China Fowls (*S. J. R.*).—Your Cochins, according to your showing, are doing you good service, they lay for three months at the time when eggs are scarcest, and then with only a short interval commence again. You must not expect them, nor any fowls, to do more; but you may improve their diet by giving them meal instead of whole corn. Give them meal composed of two-thirds ground oats, and the remainder ground maize, and the peas and barley alone in small quantities for a change. Lettuce, watercress, a turf of fresh grass, all or any of them, would be better than the cabbage leaves.

Crossing Dorkings (*K. H. B.*).—You can have chickens from your Dorkings much hardier by crossing them with Brahmas. Houdans are not a good cross, because they are non-sitters, and are, therefore, undesirable where table fowls are wanted. Your Brahmas want none of the appliances you mention. If you place perches across your moveable houses they will roost on them. No flooring is so good as hard earth for a poultry house. The straw is dirty and injurious.

Fowls for Confined Space (*Young Beginner*).—Keep Houdans and Brahmas. The former are good winter layers, the latter are good sitters and mothers. June chickens are too late for winter layers. It is more than probable they will not lay till February. You should have chickens hatched in April and May, and to insure a succession of eggs you must have a succession of pullets arriving at their laying ages in due order. You must feed well, but do not give too stimulating diet. Their house should be dry and warm, because secured from draughts, but give no artificial heat. Recollect nothing will make a hen lay in the winter; that is the province of a pullet.

Keeping Poultry Extensively (*Boltonian*).—A thousand fowls will want forty acres—*i.e.*, they want the run of them. Those which have acted as layers through the spring will be too old for table poultry in the autumn. To accomplish what you propose you must never keep a hen more than two seasons. We advise you to try first with a hundred hens. We can give no decided opinion, because we know neither the locality nor the market; but, as a rule, if the land must be rented, and all necessaries bought, we do not think you will find it profitable. We shall be happy to answer any plain questions you may put to us.

Exhibiting Spanish Fowls (*Spaniard*).—Our experience does not tally with yours. We have Spanish hens that are now getting well through their moult, their combs becoming redder every day. We have about a score of them, and shall be disappointed if they are not all in fine condition in November. The only treatment we know of, is to confine them in a three-parts darkened place for a week before they are exhibited. This tends very much to develope the comb, and to hurry on condition. Feed on soft food, varied with a few white peas.

Diarrhœa in Fowls (*Bubo*).—In reply to your query we should advise you to do that about which you hesitate—namely, to give a copious dose of castor oil on the first symptom of diarrhœa, follow it with broad and milk, or bread and ale, and avoid any description of hard food.

Wakefield Poultry Show.—We are informed that in the "Selling class" for Pigeons, the second prize was not awarded to Hudson & Burnip, but to Mr. E. Walker, Leicester

Middlesbrough Poultry Show.—We are informed that Mr. Calvert obtained first and second prizes for White Cochins, and Mr. G. H. Procter first and second for Buff Cochins; also that Mr. C. Layland, of Morris Brook, Warrington, took the first prize for Brahma Pootra chickens, and not Mr. Dawes.

Feeding Young Guinea Fowls and Bantams (*A. B.*).—We cannot see that your Guinea fowls lack anything necessary for health. Give them some oatmeal mixed with warm milk, and some onion tops or some garlick chopped up and mixed with it in good quantities. Young Bantams require chopped eggs, groats, bread and milk, curd, and waste meat cooked and chopped fine. All chickens want grass, and must have dust.

Old-fowl Pie (*Old Cock*).—Cut the old cock in pieces in proper joints, collect all the odd scraps of meat you have; anything is good enough that is sweet and clean—remnants of legs or shoulders of mutton, pieces of knuckle, shreds of bacon, lean of ham fat of neck or loin of mutton, all cut in pieces. Take an oval or a round dish of earthenware with a lid, and a hole through the handle to allow the steam to escape. Old crusts are acceptable. If you can, prepare the dish by lining it with thin slices of bacon all round and at bottom; it is an improvement. Then begin to lay in the meat, piece by piece, till the dish is full; place some slices of bacon on the top, pour in water till the vessel is full, put on the lid, tie it down, and leave the dish in a slack oven all night. Take it out in the morning, and put it in a cold place that it may set thoroughly. When cold you will find all the water has become gravy, and the odds and ends are set in jelly. It can be more expensively made. We shall treat of that hereafter. (*E. P. P.*).—See the preceding answer. You may keep hens till they are three years old. Cocks the same. You may keep hen Turkeys longer. Ducks should not be kept after two years, and in all breeds it is profitable and advisable to change the male frequently.

Various Diseases in a Pigeon Loft (*N. Y. Z.*).—We are puzzled to understand the cause of such a varied and general state of disease among your Pigeons. With strict cleanliness, good food, pure water in clean vessels, no crowding, and exercise, Pigeons have rarely any diseases. Open the boils and dress with weak alum and water. Perhaps the Indian corn being mouldy and mothy may be part of the cause; but we should incline to think that your loft has become poisoned by long use, and that removal of all the birds for a time, and a thorough lime washing, would be best. Mix fresh loam and salt, and let the birds peck at it. Wing disease is sometimes cured in its earlier stages by applying iodine paint, to be had of any chemist. Are the water-vessels perfectly clean and in good order? There is no known cure for "going light."

Pigeon Laying Four Eggs (*J. Scott*).—We believe it is rare for a Pigeon to lay four eggs, and still more rare that she should hatch three young ones. Some years since we had a bird that laid three but hatched only two. We have now a Fantail cock which has two wives; he pairs with each hen and they sit in adjoining nests, but only one manages to hatch young. The first wife was for a time truly jealous and beat the second, but now the two matrons are good friends, and each looks on unconcerned at the endearments of the other with her lord. We may add that these Mormonite birds did not come from the Salt Lake City!

Honey (*M. S.*).—Messrs. Neighbour & Sons, and Messrs. Fortnum and Mason, are extensive dealers in honey.

POULTRY MARKET.—September 15.

The prevalence of hot weather makes any quotation of prices a thing more likely to mislead than to help. At such times much is sold at a heavy sacrifice, while a few choice articles make good prices. The proportion of old Partridges is still very large, and the young birds are small. Grouse are rather more plentiful.

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 23—29, 1869.	Average Temperature near London.			Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
23	Th		66.3	45.6	56.0	23	48 af 5	56 af 5	23 af 7	7 af 8	17	7 45	266
24	F		66.0	43.6	54.8	19	50 5	54 5	45 7	12 9	18	8 6	267
25	S		65.9	43.1	54.5	20	51 5	52 5	11 8	17 10	19	8 27	268
26	Sun	18 Sunday after Trinity.	65.7	43.7	54.7	20	53 5	50 5	41 8	23 11	20	8 47	269
27	M	Length of day 11h. 52m.	65.5	44.6	55.0	23	55 5	47 5	18 9	after.	21	9 7	270
28	Tu		65.1	44.0	54.5	21	56 5	45 5	5 10	28 1	(	9 27	271
29	W	Michaelmas Day.	65.5	44.2	54.9	26	58 5	43 5	0 11	24 2	23	9 47	272

From observations taken near London during the last forty-two years, the average day temperature of the week is 65 7°; and its night temperature 44.1°. The greatest heat was 82°, on the 25th, 1832; and the lowest cold 23°, on the 28th, 1836; and 29th, 1842. The greatest fall of rain was 1.68 inch.

FORCING PLANTS.—No. 1.

FORCING is compelling plants to grow and flower at unnatural seasons. It is giving them a temperature that will cause them to grow and flower some weeks or months before their natural season. The term is not generally applied to plants which require the temperature of a greenhouse or stove, but many of the inmates, by increasing the temperature, are brought into flower much earlier than if it were no higher than sufficient to make them bloom at their natural time. When a plant receives more heat than is needful for its healthy growth, and for flowering at its natural season, it is forced. To keep up in a greenhouse during January and February a temperature of from 50° to 55° at night is forcing, which is not the object of the structure, the natural temperature for its occupants during these months being from 40° to 45° at night. If the plants are required to bloom at an earlier period than usual, and there are others to come in afterwards at their natural season, then the forcing is desirable, as it affords a longer continuance of bloom. It is also forcing when stove and other plants requiring in our climate artificial heat, are made to flower out of their natural season by the application of more heat than they would otherwise need.

To plants which must have artificial protection and heat at all times, or at certain times only, forcing is not so injurious to future growth and flowering as it is to those most generally forced—viz., hardy plants.

Greenhouse and stove plants required to bloom earlier than usual ought to have the previous growth well perfected, and somewhat in advance of plants intended to bloom at their natural season. They should be allowed as long a period of rest as possible, and be kept as cool and dry as they safely can be, before they are forced into growth and flower. They ought to experience the ripening influence of autumn, and the rest consequent on the cold of winter. If this rest he afforded them, as it may be to a great extent by well maturing the growth by an abundance of light and air, and then removing them to a cooler place, and keeping dry, an approach to the natural rest of the plants will be made; they will start into new growth strongly, and the flowers produced will be hardly inferior to those of plants not forced; indeed, in some cases they may be superior. It is scarcely worth while forcing plants with the growth not well matured, and not well set with buds, or which are not in good health, and have not had a proper preparation. The best subjects only ought to he selected for forcing, and so well is this done that in many, I may say most, instances the forced plants are generally good, whilst the failures are found among plants left to bloom at their natural season. A plant well bloomed in February shows greater skill than one no-better flowered in May. Dr. Lindley, I believe, wrote that "forced flowers are always less beautiful and fragrant than those perfected at their natural periods." Rarity is good, but excellence is best; and when we have the last combined with the former, as we often have in forced plants, I can hardly coincide with Dr. Lindley's other deductions—viz., "It is desirable, at the very least, to devote as much effort and expense to obtain superior produce [flowers] at accustomed times, as the procuring it unseasonably." A Rose is undoubtedly very beautiful and fragrant in June; in January it is both, and also rare, giving it increased value. If the expense and effort to produce the latter were lavished on the former, would it be any more beautiful or fragrant?

Had we been told that forced flowers are not to be had as beautiful and fragrant as those at accustomed times, without selecting the best and finest plants, using due preparation, and better means for flowering them than needed for those blooming at their natural season, it would have been a cause of giving in gardens what are much needed—light, airy forcing houses, instead of having to grow plants required to bloom unseasonably along with those that are to flower at accustomed times. Skill can do much, but even skill will fail to produce any but weak, lanky, pale-foliaged, and scanty-flowered plants in January in a house with rafters enough in strength to make three or four each, the panes no larger than the hand, the laps full of dirt, the paint overlapping the putty, admitting only a few faint rays of light, and the means of ventilation as antique as they are inadequate. Who has seen more "beautiful and fragrant" Hyacinths than we produce under glass, and by artificial means? The Dutch even are silent. Roses, too, are they sweeter, more beautiful in the open air than under glass? By artificial means we produce in our climate flowers (and unseasonably), that are the wonder of those who have a climate and soil peculiarly suited to their growth and perfection of bloom. This may not be general, but I believe it is, and would be more so were proper houses provided for forced plants, which are every year more in request for decorative purposes.

We want light, well-ventilated houses, no higher than sufficient to admit the plants and allow of these being placed a foot, or not more than 18 inches, from the glass; the houses to be roomy, so that the plants may be set at such distances apart that they will have light equally from all points, and with a sufficiency of piping, so that the heat given off would never in the most severe weather need to exceed 120°, better if less. There is no economy in a small amount of piping, for to heat water to a higher temperature the fire has to be made larger, and the draught greater, much of the heat passing up the chimney. No matter how strong the fire, the water can only be heated as it comes in contact with the heated surface of the boiler. And we want not only well-ventilated houses, but the air so warmed in entering that, by the time it reaches the plants, it shall be heated to a temperature little differing from that in which they are growing.

The best kind of houses are span-roofed, with a central bed chambered, or covered with flags, and holding about a foot of tan or plunging material for plants requiring bottom heat. There ought also to he a good, wide, stone or slate shelf round the house, and a pathway of from 2 feet 6 inches to 3 feet wide. Having 3-feet shelves along both sides, pathways 3 feet wide, and a bed 8 feet in width,

we have 20 feet, a good width, but not too wide. The glass on both sides should reach down to the shelves. A hundred-feet length of glass of this sort might be divided into three compartments—one to be kept at between 55° and 60° at night, and from 65° to 70° by day, with a rise of 10° from sun heat; the second to be kept 10° lower; and the third to be kept at from 40° to 45° at night, 5° higher by day, and 10° or 15° higher on fine days. A house of this description would be a great advance on the present system of spoiling the ordinary occupants of our greenhouses and hothouses by there maintaining the temperatures required for forcing plants. The plants are brought from a position much colder than that in which they are placed, they swell their buds, make weak growths, and form badly-flowered specimens. In all the three divisions I would have means of affording bottom heat, for it is quite as necessary in the cool house as in the warmer, to give newly-potted plants a start at the roots before they are excited at top. The means for giving bottom heat should be such that they could be worked separately from the system for top heat, or together, as might be necessary. The bottom heat in the cool house would be valuable for plants lifted from the open ground, potted, and at once placed in-doors for forcing; for by plunging the pots in the bed with a temperature 5° or 10° higher than that of the atmosphere new roots would speedily form, and we should have them better prepared to cater for the swelling buds; after a time these would push more strongly and more certainly. If the plants had been established in pots, and these were full of healthy roots, and therefore not needing bottom heat, it would be easy to set them on the plunging material instead of placing them in it.

The cool house would be sufficient for forcing every kind of hardy shrub or plant for three weeks. At the end of that time the plant could be placed in the next warmer division for another three weeks, and if wanted to bloom at once might be placed in the warmest house of all, where it would soon flower; but the second house would be sufficient forcing for many hardy plants. The hottest house would be very serviceable for bringing forward a class of plants that need a temperature intermediate between that of a stove and greenhouse, and for plants which, from requiring more moisture than the regular occupants of the stove, cannot well be bloomed there in winter.

The houses used for forcing could be employed for Vines in summer, which could be kept while at rest in covered boxes along the sides, or by using moveable sides, as described in "Sanders on the Vine." They might also be employed for Melons, Cucumbers, and a variety of other purposes.—G. Abbey.

SEEDLING ROSES.

We have had in "our Journal" two or three letters lately, complaining that the cultivation of seedling Roses has, to use the words of the writers, "got into a rut," by which the writers mean that our new seedlings exhibit no decided novelty, but are almost without exception repetitions, or at most but slight improvements, of long-existing varieties.

There are two questions arising from this fact, the truth of which we all allow. The first is, Is this more true of Roses than of any other flowers which have been long cultivated? Every florists' flower of which seedlings are raised by hundreds and thousands, must after a certain time arrive at a stage in which improvement is only possible in one of two ways; either by gradual degrees, the seedlings still retaining the impress of their parents—far the most usual mode;—or, more rarely, by the unexpected appearance of some new quality, or, at least, remarkable advance in perfection. The former is the case with ninety-nine out of a hundred of our novelties, whose novelty, indeed, is in most cases their only recommendation; in others, however, the advance is certain, though slight; and so it is that with Roses, as with other flowers, ten years or so will find us with flowers not much differing in class, yet much improved in those characters which we require.

With Roses, if I mistake not, the advance in this way has been more rapid than with other florists' flowers. I am not a grower of Dahlias or Auriculas, but the former do not seem to me very different at exhibitions from those I used to see in my long-past undergraduate days at Widnall's, of Cambridge, nor the latter from those that filled the shed in the garden opposite my old school; while this distance of time, nearer thirty than twenty years, has made an entire revolution in the character and quality of our Roses. And although we may be sometimes impatient when we see the new Roses of one year differing so little from those of the year before, and after growing our expensive acquisitions for a year or two, may indulge in a hearty growl when we consign the majority to the rubbish-heap; still, anyone who can compare his list at present with that of a few years past, will see that his collection has improved much, even though many of his recent acquisitions have by no means equalled the glowing description given of them in the lists whence they have been selected.

Occasionally, however, by no chance, yet in some way which we cannot comprehend, an absolutely new Rose is originated—a Rose which not only makes a sensation when introduced, but gives rise to a new race. Thus the Noisette Rose, which we call a chance seedling, has been the parent of all that class and of many of our Tea-scented, the Rose du Roi of our Hybrid Perpetuals, and so forth, the parent being not so much an improvement on the grandparent as a sport from it. And in our time we have seen this process at work, but, as might be expected, only at rare intervals. Some twenty-five years ago Géant des Batailles made its appearance among a host of dull-coloured Hybrid Perpetuals; then Général Jacqueminot was, perhaps, as great a stride; then Gloire de Dijon, and more recently, Maréchal Niel, each of these scarcely foreshadowed by previous flowers, and each destined to be the founder of a more or less extensive family. These are, however, necessarily few and far between, and in the intervals when we are waiting for them, what can the growers do but improve the families which we already possess? Here the grower of Roses has a great advantage over his fellows; he is not practically such a slave to fancy-points as others. Let a Dahlia have notched petals, a green eye, or an irregular outline, however fine it may be in other respects, no grower will keep it, were it even the long-desired "blue Dahlia" which we used to be promised in country newspapers in the days when I was young. But the most formal of all our fanciers keeps in his garden such Roses as Eugène Appert and Général Jacqueminot, deficient though they be in some one or other of those points on which he will insist as necessary. He abuses them, but he keeps them on, and admires them; and a Rose, though it may fall short of perfection in one or two points, yet if it be either new-high or new-delicately-coloured, and free to flower and open, will always have its admirers, and, more important to the raiser, its purchasers.

Still, if we are in a rut and wish to get out of it, the reason is simple enough, and a guess may be made at a remedy. Seedlings are raised in abundance from our best known and most prized Roses, and only those are retained which are absolutely good—at least, good enough to sell—while all the rest are destroyed, quite irrespectively of any special peculiarities which they may show, and no one, if I mistake not, ever thinks of retaining a Rose as a breeder which is not worth retention for sale; and so it is quite possible that plants which have shown a tendency to be the parents of yellow Hybrid Perpetuals, striped Teas, &c., have perished, because they were not good enough for sale, and no one cared to keep them to see what their seed would produce.

One of your contributors told us, among other matters, last autumn, that he had a quantity of seeds of Souvenir de Dr. Jamain. Here is a case in point. The Rose is third-rate—with me, at least, small and not full, but the colour quite a novelty, and were I inclined to foretell our next sensation, I should pitch upon a good seedling of Dr. Jamain as likely to cause it. This will be a step out of the rut.

But in the meantime let me ask our seedling growers whether it would not be worth their while to save as stock peculiar Roses, good or bad, for the chance of raising from them seedlings preserving their peculiarities, and surpassing them in quality.

We certainly want change—improvement we have, not very rapid, but still marked and evident. We cannot expect to have good novelties constantly, but more might be done if we were less contented to choose as parents of our seedlings Roses which have been parents of thousands of seedlings before.—Duckwing.

GOLDEN CHAMPION GRAPE.

There is a general complaint in this neighbourhood about the growth and progress of the above Vine, and if I may judge by my own experience of it, the complaints are not made without a just cause. Like myself, everyone complains of its weak growth and debilitated appearance, which are quite different from the description, or even from what the appearance of the

Grape itself would lead one to expect. I planted it in April last, in a newly-prepared border, along with more than twenty other Vines of different sorts, including Mrs. Pince's Black Muscat, Royal Ascot, and Madresfield Court. Most of these have carried their growth to the length of a 17-feet rafter, but the Golden Champion not only failed to start into growth at the same time as the others, but when it did start its growth was very weak, and the foliage very thin and bad in colour.

All the Vines in this house were allowed to grow as the season advanced, and owing to the weakness of the Golden Champion Vine I gave it more than its share of attention, but to my surprise it gradually became weaker until the point of its leader died off, and there it remains a miserable object, which to all appearance would be dear at a gift.

Now, if from my own experience I may conclude that many others in different parts of the country have failed to grow this Vine successfully under the usual treatment accorded to other Vines, I may fairly ask, What is the cause of this debility? also, What treatment are we to pursue in order to rear it up to the fruiting state, so anxiously sought for by everyone? In reply to the first question I shall venture to say it is more owing to the exhausting effects of a rapid propagation than anything else, for when a person considers the noble and attractive appearance of the fruit, together with the suitable parentage and likelihood of its becoming a desirable companion to the famous Black Hamburgh, it is not surprising that the demand for plants was enormous, and from the brisk propagation forced upon the raisers in consequence, the juices of the Vine were never thoroughly at rest before propagation commenced again, hence its weakness. In answer to the second question, I should say that no better plan could be advised than inarching on the Black Hamburgh, but I think all those who have their Vines already planted will do well to let them remain, but take care to thoroughly ripen the wood. I think Golden Champion will yet do well on its own roots, by making a good growth next year.—Thomas Record, *Hawkhurst*.

THE GLADIOLUS.—No. 2.

FONTAINEBLEAU.

I still linger about this classic spot—not, our readers may be sure, on account of the gilded salons of Diana de Poitiers, nor the charming glades of its wide forest, but on account of the interest I feel in the lovely autumn flower which has made this historic place dear to all who cultivate it; and I could not very well leave the mention of it without adding something as to the new varieties; and what more fitting time to write one's experience of those of this season as well as to indicate those yet to come? Before doing so, let me correct one or two errors which my unfortunate habit of scribbling has made me appear to make (I do not blame the printer, for I sometimes wonder how he does so well)—thus, I am made to say the Parisian "fairs," instead of Parisian firms; "pretty rough," instead of pretty enough; "*arrache*," instead of *arrachez*;" while by a *lapsus plumæ* I wrote "Molière instead of Ulysse.

There can be, I think, little doubt that the collection sent out by Monsieur Souchet last season comprised finer flowers and more of them than in the previous season, and, indeed, I make bold to say, than any former one; and as I have grown all the varieties named below under my own eye, have seen them with other growers, and compared notes, I rather fancy the judgment now given will prove tolerably correct.

Michel Ange.—I place this foremost, for it is a most remarkable flower. The description given of it in the catalogues led many to suppose that the spike would not be regular, but, as some one expressed it to me, all about the place. But this is not so. The spike is regularly formed, and the flowers are very remarkable, having more the appearance of a Lily than a Gladiolus, a peculiar dark crimson purple with white lines. In the bed it has a most effective appearance.

Homère, Thomas Methven, and *Madame Dombrain.*—I place these three together, for there is a great similarity between them. Of the three Thomas Methven is, I think, the best—a large, fine, and well-formed spike; the colour deep violet rose, flamed with carmine violet. Homère has more purple in it, the flaming, perhaps, not quite so brilliant; while Madame Dombrain has less rose colour. All these have the regular form of spike, and all are desirable flowers.

Schiller.—A curious shade of colour, having novelty to recommend it; it is called a sulphur yellow, and has the very faintest tinge of primrose. It bears some analogy to Anaïs, but is larger and finer in every respect.

Marie Stuart.—A very fine flower with long spike; the ground colour a very pale blush, flamed and striped with carmine cerise.

Argus.—A brilliant-looking flower, admirable for effect, but wanting in shape. The same may be said still more of

Romulus.—Dark crimson with large white spots, but the petals are pointed and irregular; still for its colour it may and will be grown.

Legouvé.—A magnificent flower, long spike. Individual flowers large and well shaped, fiery red colour; upper petals with a white line in them, large white spot on the lower ones. One of the best flowers of the year.

Madame Desportes.—A beautiful pure white, purer, I think, than La France or Norma of the year previous, with a very light violet stripe in the lower petals. Very fine.

Fénélon.—A very long spike. Very light rose colour with a violet tinge, but rather muddly.

Racine.—A long spike. Flowers, cerise tinted with violet. A well-formed spike.

Virgile.—A brilliant scarlet red flower. Long spike, well-formed flowers. A striking plant.

Circé.—A rose-coloured flower, largely tinted with lilac, and flamed with crimson, somewhat after Madame Furtado. Very pretty.

Corneille.—Well-formed spike. Clear cerise; the edges of the petals with deeper shade of the same colour.

I have not seen Antonius, Buffon, Isis, Jenny Lind, Montaigne, Picciola, or Van Dyck, but I do not think that they equal those I have named. Those who do not possess them will do well to procure Michel Ange, Homère, Thomas Methven, Madame Dombrain, Legouvé, Marie Stuart, Racine, Madame Desportes, Virgile, and Schiller.

With regard to the new varieties coming out this autumn, my notes on them were rapidly made. Madame Souchet was in despair; the baptism had taken so long that the dinner was behindhand, and yet here were two enthusiasts still poring over them, and then, surrounded as they were by other flowers, what wonder that one's head almost got off its balance. I believe, however, that the following is a tolerably correct *résumé*. There are twenty-four to be brought out, divided into four separate classes, varying, of course, in price.

In the first class are Phœnix, a fine cerise colour; Roseta, very beautiful white with cerise blotches; Petrarch; La Candeur, a fine white; Robert Fortune, with deep spot; and Orphée.

In the second class, Elizabeth, bright pink; La Sylphide, white with large blotch; Perfection, white with deep flame; Mariana, very large pink; Agathée; and De Humboldt.

In the third class, Spectabilis, fine colour; Adanson, something in the style of Anaïs; Bossin; Asmodée, excellent spike of deep scarlet; Delicatus; and Rosea perfecta.

In the fourth class, Welpers, Eleanora, Sultan, Gloria Florum, large white; and Dr. Livingstone, very bright, but not very large.

It is clear that we must be gradually thinning out our older varieties when newer kinds of the same style are so far superior, and yet we do not like to give them up. It has been feared by some that we were losing vigour in these new kinds and gaining beauty at the expense of constitution, but I hardly think so. Some of the older kinds—Napoléon III., Achille, and James Veitch, for example—are far more delicate than Norma, La France, or Meyerbeer. Some of the new kinds are undoubtedly so, Semiramis for example, but they are outnumbered by the more vigorous sorts. M. Souchet has clearly understood, that it is better to give short than long names to things; we have no "Souvenir de Madame la Comtesse de ——," and such-like absurdities, as in the Roses.

I have not ventured upon giving any selection of the older varieties, as I have done so before, but have merely referred to the newer sorts, and in my next shall have something to say of the difficulties that beset the cultivation of this fine autumnal flower.—D., *Deal*.

Hurricane in Jersey.—From early in the evening of Saturday, September 11th, to Sunday morning, Jersey was visited by such a hurricane as has not been known there, so say the inhabitants, for more than thirty years. Thriving, blooming gardens are left like wildernesses, and plentiful crops of Pears, without any exception that I have heard of, have positively been cleared and scattered on the ground; nor have the Apples fared better. By Sunday morning the Tomatoes and plants

of that kind had the same appearance as they would have worn in England, after a very severe night frost. The plants were lying along the ground, the leaves black, shrivelled, limp, and withered We are about 300 yards from the sea, and from a gully of the garden which receives the wind in its force, some Apples which were tasted had a strong flavour of salt. Flowers, of course, for the present, are done for; the vegetable crops are injured, and the trees much shaken in the earth. The wind was, I believe, S.W., and the barometer went down and up with wonderful variations throughout the night.—E. W., *Jersey*.

FRUIT-TREE STOCKS, PARTICULARLY THE QUINCE.

At page 200 of The Journal of Horticulture, Mr. Rivers seems to be pleased with the opportunity I have given him of "ventilating" the above subject. He thinks I have laboured under a mistake for many years about the Portugal and Angers Quinces. I must say that the supposition is gratuitous on his part, and that I think myself at least his equal on the subject. He further says it is probable that I have neither the one nor the other true to name. Why should I not have them as well as himself? I think he pays my intelligence a bad compliment. Mr. Rivers refers to his having obtained his knowledge of the Quince stock from the "Catalogue" of the Horticultural Society, compiled by Mr. Thompson about 1831. Mr. Thompson's knowledge of this stock could not then have been very great, as he had been only in the gardens about six or seven years. But what Mr. Thompson recommended in the first edition of the "Catalogue" I do not know, but he has made no reference in the edition of 1842 beyond the remark that the Portugal Quince "is the best sort for grafting Pears upon," and this is my opinion also. Merlet, who wrote three hundred years ago, says upon the choice of Quince stocks for grafting, "that the Portugal is the best and most favourable of all for grafting our good Pears upon; that the rise of the sap is so strong therein, that it produces large and excellent fruit of a beauty and bounty extraordinary; besides that the graft does not make a swelling at its junction with the stock, this latter being so strong that it has complete mastery of the subject grafted upon it." Now, this is just what I find. Mr. Rivers likes the Angers Quince because it is easily propagated, as is also the sort called Doué, but a facility of propagation does not always constitute a stock's being the best. However, I have no more difficulty in propagating thousands of the Portugal Quince than I have of the others, but my system of doing so is quite different from that pursued by Mr. Rivers—*i.e.*, layering, by cuttings, or by grafting.

Mr. Rivers has a little hit at our Somerset climate—whereas our Somerset climate is just the sort to produce fine healthy trees with well-ripened wood that will withstand most winters—that is, if the trees were originally from a country where frosts prevail, not such as Candia or ancient Crete, the birthplace of the sort of Quince from which all those we use as stocks have sprung, more especially the Angers and Doué varieties. Mr. Rivers obtained from M. Leroy one of each kind of Quince, as mentioned by himself in an article written not very long ago, if my memory is right; and from this same source I obtained not only all the sorts of Quinces that Mr. Rivers did, but I also had from M. Leroy fruits of above twenty other kinds, out of which I extracted the seeds, and from these raised several hundreds of plants, many of which bid fair to be rivals of the veritable Angers. In fact, I think I am pretty well up in the subject of Quinces. When I commenced I intended to have gone into the subject botanically, but I have not done so, and I daresay the Editors are as well pleased.

I now come to the Pear Nain Vert, and will quote a passage from M. Leroy, the accomplished and learned author of the "Dictionnaire de Pomologie," a work at once a marvel of research, learning, and cheapness. He says, "I will add, having grafted upon this little fat tree (*egrasseau*), the Belle Angevine, which is now eight years old, has remained dwarf, and produced enormous Pears." So much for the "*château en Espagne*." We shall see some day, if we all live.

Mr. Rivers, however, in the same paragraph broaches a subject, although not differing much from the Nain Vert one, dismissed with a supposition that I think is not borne out by any physiological reasoning that I am acquainted with—viz., the disruption of the vessels of the stock to meet the requirements of the graft. This supposition is in my opinion a bigger "*château*" than the possibility of obtaining enough of seeds from the Nain Vert Pear for commercial purposes. Let only a demand arise, and we shall see.

I now come to a bewildering paragraph—why fifteen sorts of Paradise stocks? I do not think I shall try to procure so many Paradise stocks as fifteen, being perfectly contented to think that I have already the best stock of this kind in existence. Mr. Rivers has obtained it in a roundabout way, and is forced to give it at least no secondary place. Mr. Rivers, in commenting upon what I wrote about the sale of Pear trees for double-grafting, tries to shove them overboard by saying that those I mentioned were of all kinds of refuse, and not worth packing and carriage, and further hints that the person who sells them got his knowledge from him. Now I know the party alluded to, but did not know that he sold such rubbish. The parties I deal with graft special kinds for the purpose, as Mr. Rivers does Beurré d'Amanlis.

I now come to the last portion of this knotty subject, the working of Apricots upon Apricots, &c. As far as my own experience goes, it is this: Having several times imported Apricot stones and raised thousands of them, I had a good opportunity of trying how the best sorts would do upon them. My success was very, very indifferent. Most of the stocks proved so tender that it was difficult to keep enough alive to experiment with. Those which I was enabled to work produced such weak wiry shoots that there seemed but little hope of ever obtaining fruit from them; those that were budded and came to a bearing state, produced fruit either hard and close-fleshed, or so watery and sour that they were perfectly uneatable. Added to this, the very kernels partook of their austerity, and even under the most favourable conditions the fruit remained unripe, and in all cases the flesh was adherent to the stones. It seems, therefore, from my experiences that the stock exercises a great influence upon the quality of the fruit, more especially in certain seasons, and that the graft but rarely, or very little, influences the stock. The subject of stock culture is, therefore, one fraught with great interest, and deserves the utmost attention. That it will receive that attention from some there is no doubt; but I am afraid that the generality of cultivators are indifferent to the benefits that would accrue from a careful study of the subject. It is now just half a century since I commenced the study of horticulture, and I have spent that time in ardent research in all branches connected with it, and with Mr. Rivers I may say that "my life has been, and still is, a life of research and experiment;" and although the allotted threescore years and ten are in my case, as in Mr. Rivers's, fast filling up, yet I can say my love of Flora and Pomona knows no abatement.

There is one portion of Mr. Rivers's article which I have not touched upon—that is, where he speaks of sending me some of his Apple trees. I believe some trees did arrive here, but being without names were consigned to the faggot-heap. As to answering his note, this I did not do for reasons I need not mention here.—John Scott.

VIOLA CORNUTA PERFECTION.

I saw this superb seedling Pansy at Rotherfield about a fortnight ago, and regret that I could not attend the meeting of the Royal Horticultural Society's Floral Committee, on the 7th inst., to record what an opinion I had formed of its superiority over all other Violas in respect to its profusion of bloom and rich colour, which is as much like that of Achimenes Mauve Queen as it is possible to be. Mr. Scott, the gardener, first pointed it out surrounding one or two beds in the flower garden, which is in one of the driest spots that could be well conceived, being on the top of a hill, and having a light sandy soil resting on a gravelly base. I then said, "Very beautiful!" but on his pointing out a bed, 11 feet by 4 feet, immediately under a west wall in the kitchen garden, exposed to the full blaze of this extraordinary summer's sun, such a display of bloom and healthy foliage (which partakes more of the character of the ordinary Pansy, V. tricolor, than that of V. cornuta), met my eye, that I could not help exclaiming, that it was the finest thing I had met with this season; and to such a man as a Gibson or a Bennett it will prove invaluable.—James Cutbush.

PROPAGATING POTATOES FROM EYES.

I planted in March last, 1 lb. of Early Rose Potato in the garden of the Provost of King's College, Cambridge, and when I took them up, August 30th, there were no less than 142 lbs.

They are a very fine sample, and when cooked they are white and floury. I treated them in the following manner :—I had five Potatoes of equal size, I put them in the vinery and started the eyes. I then cut them into sixty-two sets, and gave the ground a coating of manure from the Melon pit, 2 inches thick. I placed the sets 4 inches deep, and 16 inches by 30 inches apart.—N. CASTLE, *Gardener*.

[Any other Potato would have done the same.—EDS.]

HOUSE FOR ROSES.

I HAVE had erected a Rose house in which the Roses are planted in beds and borders. The novelties are—1st, The height of the sides, thereby allowing space for rampant climbers, such as Maréchal Niel, Isabella Gray, Cloth of Gold, Solfaterre, &c.; and 2nd (which is most important, and, I think, an entirely new idea), that the side lights open on a level with the ground inside the house, so that the air circulates well round the plants.

Most Rose houses are built with a wall 3 or 4 feet high, and then the glasswork is placed upon the wall, so that one of the first principles of Rose-growing is violated by the plant being, so to speak, in a hole. In cultivating Roses out of doors one is continually stirring the soil round the roots in order to let in the air. Now, what I wish to show is, that if a Rose house is built in the ordinary manner, it is quite impossible that the air can reach the roots and circulate round the lower part of the plants, as it should; and, keep the soil stirred as one will, there will always be a state of semi-stagnation highly productive of mildew and other evils.

To amateurs far enough advanced in Rose-growing to have a Rose house built, I need not point out the benefit of syringing often, and the advantage of having a liquid-manure well not far off; it is also good to have a butt at one end of the house to lead the gutter-pipe into, so as to insure a supply of rain water. This house is 32 feet long, 18 feet wide, 12 feet high in the centre, and the height of the sides is 7½ feet. It is built on a brick foundation, and is made to take to pieces. It is lined with wirework, so that the climbing Roses are independent of the woodwork.

I annex a list of Tea Roses grown in the above house which may be useful to some of your readers, with a few remarks on the newer or more uncommon sorts.

Céline Forestier
Cloth of Gold
Isabella Gray
Lamarque, elegant, not full enough.
Maréchal Niel
Narciase
Solfaterre, fine grower
Triomphe de Rennes
America, first-rate at times, but not to be depended on
Adam
Alba rosea
Archimède, good
Bouton d'Or, pretty button-hole flower
Bougère, first-rate
Climbing Devoniensis, too much wood in proportion to the flowers
Comte de Paris, very good, rather variable
Devoniensis
Duc de Magenta, good
Elise Sauvage, very elegant
Goubault
Homer
Jean Pernet, middling
La Boule d'Or, fine under glass
L'Enfant Trouvé
Louise de Savoie, good under glass, will not open here out of doors
Madame Bravy
Madame Falcot
Madame Margottin, very fine
Madame Willermoz
M. Furtado, a fine yellow Rose
Niphetos
President
Rubens
Reine de Portugal, bright orange, a first-rate new Rose, slow opener, wants growing under glass
Sombreuil
Souvenir d'Elise
Souvenir d' un Ami
Vicomtesse de Cazes

—G. H. M.

QUACKERY AMONGST THE GARDENERS.

THE pursuit of horticulture is generally thought to have a good effect on the mind. The striving after truth, the effort at perfection, must ennoble. The gardener who loves his art has no idea of keeping as a secret any improvement he has discovered in culture. The readiness, nay, the anxiety, of our first-class gardeners to impart knowledge is well known; the pages of "our Journal," and similar publications, bear evidence of this. If a gardener professes to have secrets he is unwilling to impart, most persons set him down at once as a fool.

Nor is this willingness to impart information unknown amongst nurserymen, and there are few of whom I should hesitate to ask a question, either concerning culture or propagation. There may be a few ignorant men who, with low cunning, will seek by any means to derive information, and impart none in return—to enter their neighbour's propagating house, for instance, whilst carefully locking the doors of their own; but I am glad to say a more liberal spirit is now the rule. The first-class horticulturist has the feeling of a first-class medical man, that knowledge ought to be disseminated for the public good, and that it is as mean to withhold information as it is foolish not to desire it. In spite of this increasing liberal feeling, there are still symptoms of a quackish spirit abroad. What is it but quackery, when nostrums are advertised at unheard-of prices? One can imagine a man unconnected with horticulture advertising something for the benefit of gardeners, and if it proves good and worth the money charged, gardeners will use it till they discover something equally efficacious. But for a man, whether gardener or nurseryman, to advertise anything, a manure, for instance, at double or treble the price it can possibly be worth, and to try to make people believe his success as a cultivator is due to its use, is, in my opinion, rank quackery.

I have at the present time plants of Golden Champion and Madresfield Court Vines, about 20 feet long, and as thick as many walking sticks; these have had good soil, plenty of heat, and a little sheep-manure water, with plenty of attention, which are all that Vines require, and I do not think any patent manure would improve them. No doubt, competition in business is great, and the profits of business small, but let us choose rather the respect which follows professional conduct, if associated with small profits, to the larger gains which sometimes reward quackery.—J. R. PEARSON, *Chilwell*.

BOUQUETS AT THE MANCHESTER SHOW.

MY attention has been called to some remarks of Mr. W. H. Turner respecting bouquets at the Manchester Exhibition, in which he charges me with neglecting to place cards upon those shown by me. Were it necessary, myself and four others are prepared to state on oath that the Society's cards were placed upon the vases holding the bouquets, and were there up to the time the tent was cleared. When the judges came round the cards had been abstracted, and the judges supposed the bouquets were not for competition. Possibly some of the baffled competitors may know something of the matter.—RICHD. S. YATES, *Sale, Cheshire*.

WHO IS TO BLAME?

A QUESTION certainly not answered by Messrs. Carter & Co., who, I learn for the first time, are, in conjunction with Messrs. Hurst & Son, the fosterfathers of Laxton's Supreme Pea. If Messrs. Carter will re-read my notice of it, they will see that they have not the least reason for saying that I pit my judgment of the *general* character of that much-exalted Pea against their own or anyone else's, I simply state a few facts (mighty ugly ones, too, against the popularity of the said Pea), with reference to its growth with me, and the manner in which it has belied its character. I bought a sealed packet, and I repeat that it in no way resembled its picture and description, save in the least important particular—the shape of its pods. Remembering what the astute Horace says, that "*pictoribus* atque poetis" a certain (very uncertain) license is given, I would not have complained of anything so trivial as the number of Peas per pod, but when one of the main points of excellence for certain purposes is entirely mis-stated—viz., dwarf habit, there is something to complain of. Nor would I have been too particular here; had it been 50 per cent. taller than advertised, and in other respects true to its description, I would have remained silent; but when it exceeds by 100 per cent., being 7½ feet high), I am very slow to believe its average height is 3½ feet; and I shall be glad to know whether anyone has found Laxton's Supreme true to its character, especially in this particular.

Messrs. Carter's remark that, "as regards the price of an article, it is worth just what it will fetch," is at once both true and false; it is the answer which the "cheap Jack" made to the countryman who purchased the historical razors, "made to sell." True in a sense in which Messrs. Carter would be the last to accept it, it is false in this, that an article not worth 6*d*. would, backed by Messrs. Carter's name, sell readily for 3*s*. 6*d*.; but, then, they would sell not the article only, but so much of their own reputation. Confidence in the integrity of such firms as Messrs. Carter & Co. induces growers to give any price asked for such novelties as they may desire; nor can they in reason complain of the price, *if they get what the catalogue says they pay for*. In the present instance I certainly have

not, and I ask, Who is to blame? As to the retail price—3*s.* 6*d.* per half pint—let anyone who doubts its being high, search through his old catalogues till he find its like.

As to enterprising seedsmen giving £100 per bushel for stock seed, it matters not to the grower whether they give £100 or 100 pence; he regards what they promise, what he pays, and, most of all, what he gets. Unquestionably such firms as Messrs. Carter & Co., *cum multis aliis*, have done great things in the cause of horticulture, and every grower must wish them well; but their prices for stock seed is their affair, not the grower's, being purely a trade speculation, founded on their own experience and acumen.

As to my "looking at Peas in my neighbour's garden instead of my own," I can only wish that I had had such luck in the case of Laxton's Supreme. From all I know of it at present, I am inclined to adopt Messrs. Carter's hint with regard to the other first-class Peas of Mr. Laxton which they intend offering to the public—viz., to look at them in my neighbour's garden before I introduce them to my own, though no one is more willing to pay such a price as will remunerate the labours of crossing, selection, &c., whereby our fruits and vegetables are improved, than—C. C. E.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 21ST.

FRUIT COMMITTEE.—George F. Wilson, Esq., F.R.S., in the chair. A prize was offered by H. G. Bohn, Esq., for a dish of Peaches grown on standards in the open air, but there were no competitors. Mr. William Paul, of Waltham Cross, sent four sorts of seedling Grapes merely for exhibition, Mr. Paul desiring only the opinion of the Committee as to those varieties which it would be desirable to cultivate. Nos. 2, 4, 10, and 15 were selected by the Committee, and Mr. Paul promised to exhibit them again at next meeting, when there would be a collection brought from the garden at Chiswick. No. 10 is a very fine Frontignan; No. 2 a large-bunched variety with a rich Muscadine flavour, as also is No. 15. Mr. Ross, of Welford Park, Newbury, sent a seedling Plum which did not possess sufficient merit to warrant a certificate.

G. F. Wilson, Esq., brought a dish of very handsome fruit of Transparent Gage Plums. Mr. Wilson also brought a quantity of nuts in clusters as taken from the trees, all of which were pierced with large holes and the kernels abstracted. This was produced by the attacks of field mice, which climb up the branches and attack the fruit. Several of the members have observed these mice attacking the Filbert and nut plantations. An erroneous impression is abroad that these attacks are due to the Coal Tit (Parus ater), the beak of which could not possibly have caused the effects produced.

Messrs. Bunyard & Son, Maidstone, sent fruit of a seedling Apple, which was so small and so much decayed that they were requested to send it again another season. The Rev. George Kemp, of Sevenoaks, brought fruit of Rivers's Summer Beurré d'Aremberg, of excellent flavour, though small on account of the season.

Mr. Gilbert, gardener to the Marquis of Exeter at Burghley, sent fruit of Duke of Cornwall Melon, a very large fruit, weighing 8¼ lbs. It has a clear yellow, smooth skin and a very thick green flesh, and was scarcely ripe, but it had all the properties of a first-rate fruit. He also sent a seedling raised between the Duke of Cornwall and the Victory of Bath. It is a white-skinned variety with a thick green flesh, and very richly flavoured. It was awarded a first-class certificate, and named Burghley Green-flesh. Mr. Goldsmith, gardener, Polesden Lacy, Dorking, sent fruit of the old Windsor Prize, a scarlet-fleshed variety of good flavour. Mr. Stacey, the Gardens, South Bank, Edgbaston, Birmingham, sent a seedling Melon, which also proved to be the Windsor Prize.

Mr. Fairbairn, gardener to W. Death, Esq., Bishop Stortford, sent a good specimen of the Blood Pine, weighing 6 lbs. 9 ozs., to which a special certificate was awarded for meritorious cultivation. Mr. George, of Putney Heath, sent a Strawberry plant in a pot bearing fruit on a runner of the current season. Mr. John Haisman, gardener to Horace Martin, Esq., Oldbury Place, Ightham, sent very good specimens of Forbidden Fruit.

Mr. Fenn, of the Rectory, Woodstock, brought specimens of Ribston Pippin grown on trees grafted on the Blenheim Pippin, exhibiting very remarkable results as to the influence of the stock on the graft. An account of this interesting subject will be found in our next number. Mr. Fenn also exhibited three kinds of home-made wines, one from the Espiran, another from the Royal Muscadine, and a third from Muscat of Alexandria, all grown in the open air. All of them were very well manufactured wines, and the result of a persevering course of experiments which Mr. Fenn has been carrying on for a great number of years to ascertain the practicability of producing in this country a cheap and wholesome wine from home-grown Grapes. Mr. Fenn's efforts have at last been crowned with great success. The first sample, which is red, was a very good light wine, with a good deal of body and flavour, and far superior to many of the *vins du pays* one gets in France and Switzerland. The second was quite a first-rate wine, somewhat of the character of a white Burgundy, and this received a first-class certificate. The third was a light sparkling wine very pleasant to drink, but thin, and would not keep long; nevertheless a great advance on home-made sparkling wines generally.

Mr. Fenn also sent two varieties of seedling Potatoes—one, named The Rector of Woodstock, a fine-flavoured and very prolific Potato, which was awarded a first-class certificate. The other was not considered of sufficient merit, it being without much flavour, though very floury, and a fine-looking Potato. Besides these, Mr. Fenn had a collection of what he considered the twelve best sorts of Potatoes, for which he received a special certificate. From Messrs. Barr & Sugden, King Street, Covent Garden, came a very large and interesting collection of Onions, for which a special certificate was awarded.

FLORAL COMMITTEE.—Rev. J. Dix in the chair. W. Lacey, Esq., Southampton, sent a seedling bronze Zonal Pelargonium. From Mr. Warren, Salisbury, came some very neat plants of a dwarf small-flowering Veronica, named Blue Gem. This is one of the prettiest plants that have been exhibited this year; its dwarf, neat habit will make it very useful for bedding and decorative purposes. Mr. Warren also brought a plant of Viola Perfection, and flowers of the same were sent by Mr. Dobson, of Alton Park, to a previous meeting. A first-class certificate was awarded it as a valuable bedding variety. Mr. E. Bland, Richmond Hill, sent four seedling hybrid Nosegay Pelargoniums and others, but of no special merit. Symmetry, a well-formed scarlet flower, was good, but not equal to some others.

A collection of Orchids from the Society's gardens was awarded a special certificate. Among them a Cypripedium Reichenbachii, a new plant of no particular beauty, which is reported to produce from twenty to forty flowers on each spike, was awarded a first-class certificate.

Mr. Wimsett, Chelsea, sent his two hybrid Ivy-leaved Pelargoniums—viz., Willsii rosea, dark bright rose, which had received a first-class certificate, also Willsii, a lighter and paler rose, to which a first-class certificate was awarded. These are very beautiful plants, and will, doubtless, be in great request. Mr. Whitehorn, Southampton, sent seedling Zonal Pelargoniums Queen of the South, Delicatum, and Jolly Captain. Mr. Cuthbush, Highgate, exhibited two very well grown specimens of Cockscomb, which were awarded a special certificate for good cultivation. Mr. Nash sent flowers of two seedling Pansies, also cut trusses of Zonal Pelargoniums; the latter without petals, the Pansies of no merit, of the usual character found among any batch of seedlings. Mr. Cannell sent seedling Zonal Pelargonium Mrs. Cannell, pale pink, of moderate form; also Yellow May, golden-leaved.

Dr. H. Rogers, East Grinstead, sent an Epidendrum to be named, and Cattleya Harrisoniæ. From Messrs. Bell & Thorpe came a collection of cut Petunias, many of them very pretty, also double Zonal Pelargonium Miss Evelyn. This being the seedling plant, was not eligible for a certificate; it is very promising, the flower of a bright rose colour. Messrs. Salter sent a very good collection of succulent plants, for which a special certificate was given; also Centaurea hybrida, a seedling of great merit with fine broad foliage. A first-class certificate was awarded it. Mr. Cripps, Tunbridge Wells, sent Hydrangea paniculata grandiflora, a very ornamental, hardy, Japanese plant, producing large erect spikes of white flowers. A first-class certificate was awarded it. Mr. Cripps likewise exhibited Cedrus verticillata glauca, a glaucous variety of Deodar. From Mr. G. Smith, nurseryman, Hornsey Road, came Zonal Pelargonium Formosa, a fine shaded salmon flower.

Mr. Green, gardener to W. W. Saunders, Esq., brought a new form of Agave, Agave pectinata—a first-class certificate was given. Messrs. Lee had plants of Cupressus alba-spica; there was some doubt expressed as to its correct name. A first-class certificate was awarded, and it was requested that it should be sent again. Messrs. Lee also exhibited Thuja Tom Thumb, a diminutive plant, fit for a glass case or window; a collection of Centaureas, not sufficiently distinct from others, and Alternanthera magnifica, a free-growing variety. Mr. George, Putney Heath, brought several Zonal Pelargoniums, some of them being seedling plants, which by one of the Society's rules cannot receive certificates; also a collection of cut flowers of seedling Zonal Pelargoniums, among which were two of considerable merit, these being Mrs. Cannell, a fine, bold, white flower, the centre striped with pink, and King of the Roses, a very promising flower.

Mr. Wheeler, Warminster, exhibited a seedling Dahlia, Lord Weymouth, a bright yellow, the petals deeply margined with dark red; the flower is, perhaps, too coarse for the florist's eye, but as a decorative flower for the border it is very useful; a second-class certificate was awarded it. Mr. C. Turner received a second-class certificate for seedling Dahlia Alice Gair, a first-class certificate for Provost, and a special certificate for a very fine collection of cut flowers. Mr. Burgess, Chelsea, sent seedling Dahlias Cottage Girl and Mrs. Burgess. Mr. Rawlings had seedling Dahlia Royalty, the finest seedling exhibited, of excellent form, and bright yellow colour; a first-class certificate was awarded it. Mr. C. Parker, Winkfield, sent two seedling Dahlias. Mr. Cox, gardener to W. Wells, Esq., brought an interesting collection of cut specimens of Conifers with fine cones on them, some of them having been rarely known to produce cones in this country. A special certificate was awarded the collection.

GENERAL MEETING.—J. Russell Reeves, Esq., F.R.S., in the chair. The election of one new Fellow was followed by the usual announcement of awards, and the Rev. Joshua Dix took the opportunity to

mention in feeling terms the loss which the Society had sustained in Mr. Veitch, of Chelsea, and Mr. Robert Thompson.

The Rev. M. J. Berkeley then pointed out to the meeting the fine specimens of Pine cones from Mr. Cox, of Redleaf, particularly Pinus Smithiana, commonly known as Pinus Morinda, and the species under the name of Picea cephalonica, which, however, he believed not to be true to name, Picea cephalonica being rather tender. The fruiting of these Conifers he believed to be in some measure owing to the wood being so well ripened last year. A Fungus found in a sewer was next noticed as being probably a singular form of Agaricus ostreatus; and in connection with this it was mentioned that the exhibition of edible and poisonous Fungi is fixed for the next meeting.

Mr. Berkeley having adverted to Mr. Fenn's exhibition of Potatoes, consisting of two series, in which Hogg's Coldstream and Shutford Seedling, and Early Emperor and Fenn's Onwards, were respectively the male and female parents, mentioned that some of the progeny had actually degenerated so much as to resemble the wild Potato. He then read the following paper by Mr. Fenn on the results of grafting Potatoes:—

I grafted this year Red Ashleaf on Dickson's Premier, Paterson's Scotch Blue on Royal Albert, and *vice versâ*. I have been unfortunate this season in regard to the "taking" of the grafts. I planted and kept the grafted sets in 6-inch pots, contrary to my later practice of planting them in the open ground when the shoots in the pots have pushed 5 or 6 inches out of the soil. This may have tended to cause non-success as regards the cicatrisation of the skins; nevertheless, sufficient results have been arrived at to afford conclusive evidence as to the possibility of grafting one Potato with the eye of another.

On July 14th, I examined two sets, an eye of Royal Albert (a handsome, round, white Potato), grafted on Paterson's Scotch Blue. The eye had held perfectly fast to the tuber, thereby giving hope of some influence being exerted between the stock and the graft. I made the graft fit as perfectly as possible into the wedge-like, sliced-out cavity in the tuber, but at the above date the graft had swelled-out of its first position, though not sufficiently to disunite itself from the cicatrix of its own skin and that of the stock on one side. I gave several good tugs at the graft, but I could not displace it, and I sent it to Dr. Masters to verify this result. Dr. Masters wrote me in answer, "In one case the cohesion was evident, but I do not see that the new tuber or the haulm is at all affected by the grafting process. We must have more conclusive evidence than that. I see the union is not merely along the rinds, but in the cellular mass of the Potato as well. I have forwarded the tubers to Chiswick. The whole subject is very interesting."

The other sort sent to Dr. Masters was the eye of a Paterson's Scotch Blue on Royal Albert, no cicatrix, or union of the skins, had formed, but some of the young tubers were half-coloured, others less coloured, and one was perfectly white, none of them showing blue all over like the sort. I asked Dr. Masters to forward them to Mr. Barron, and request him to plant them and note whether the colouring was permanent.

Now for "more conclusive evidence." I wrote on the 14th of July that I durst not then meddle with the roots of my last year's grafted Potatoes. Their appearance I noted thus:—Fenn's Onwards on Almond's Yorkshire Hero: an Onwards haulm, but earlier, and very diminutive in comparison. Hero on Onwards: I can perceive no difference in the haulm as compared with those not grafted, except, perhaps, that the foliage of the grafted sets is of a more glazed green. Yorkshire Hero on Fluke: haulm looking like that of the true Yorkshire Hero, with not a symptom of the dark green tinge of the Fluke foliage. Milky White on Yorkshire Hero: haulm like that of a diminutive Milky White, quite ripening off, whilst its namesake by its side was in full vigour of leaf. Milky White grafted on Fluke (this I did by mistake; I intended to have grafted the Milky White on itself, to try what would be the effect, if any): haulm showing quite a different character from that of Milky White, being not so branching, and of a darker, more upright, and more robust habit. All the above examples in 1868 united at their rinds more or less completely soon after they were planted out—a fact which I proved by inspection.

I planted the above-named Potatoes on April 15th, when the graft of Onwards on Hero showed sprouts decidedly greener than those of the true Onwards; and when I dug them up, on August 9th, their haulm was not nearly so ripe as that of the latter, and their produce generally, for form, proved rounder than Onwards. The Milky White grafted on the Fluke is the only other decided "conclusive evidence," and that is conclusive enough in the wrong direction; the character, as well as the Potato, being quite spoilt. In short, I may have gained (but I must wait another year to prove it), an improvement by grafting the Onwards on Yorkshire Hero, and that I fear will prove at the most but a mere pennyworth of Potato to a sack of trouble, though I shall be well content if, by the experiment, I have added my mite to the science of horticulture.

The subject, Mr. Berkeley said, was one of great importance, and Mr. Fenn's paper very suggestive.

Mr. Murray drew attention to a collection of Cacti from Mr. Wickham, who was travelling on the banks of the Orinoco, and moved a vote of thanks to the exhibitor, and this having been passed, the proceedings closed by the Chairman announcing the next meeting would be held on October 5th, when there would be an exhibition of Grapes as well as that of Fungi previously referred to.

SALT FOR STRAWBERRIES.

The quantity of salt used by me for the Strawberry plants (see page 213), was the contents of a herring barrel—that is, the brine that a barrel of herrings contained, and I spread it between two rows of about sixteen plants on each side, thirty-two plants altogether. You will see, therefore, it was a good pickling, and to all appearance yet the plants are much benefited by it, being the most healthy of any. There has been a mistake with the Potato ripening in two months from planting; it ought to have been two months after coming through the ground.—W. T.

[The benefit to the Strawberries must not be altogether ascribed to the salt in this instance, for the oil and other refuse from the herrings are powerful fertilisers.—Eds.]

EXPERIMENTS WITH POTATOES.

We give below the results of experiments with fourteen varieties of seed Potatoes conducted under the direction of Admiral Hornby. All the varieties are treated alike, and sown in black soil on the Knowsley Cottage Farm. Nos. 1, 2, 3, 5, 6, 8, 9, 13, and 14, were obtained from Scotland. All these are good eating Potatoes, the first particularly so; and of this kind beautifully shaped single Potatoes have been turned up from 28 to 31 ozs. in weight.

No.	Weight of Seed sown.	Names of Potatoes.	Weight of Marketable Produce.
1.	14 lbs. ..	Paterson's Blue	618 lbs., or 44 times weight sown.
2.	14 lbs. ..	Paterson's Regent.....	539 lbs., or 38 times.
3.	14 lbs. ..	Paterson's Red	401 lbs., or 28¾ times.
4.	14 lbs. ..	Daintree's Early	394 lbs., or 28 times.
5.	14 lbs. ..	Paterson's Oval Blue ..	359 lbs., or 25 times.
6.	14 lbs. ..	Paterson's Victoria	329 lbs., or 23½ times.
7.	14 lbs. ..	Webb's Imperial	272 lbs., or 19 times.
8.	14 lbs ..	Paterson's Napoleon ..	229 lbs., or 16 times.
9.	14 lbs. ..	Dalmahoy	221 lbs., nearly 16 times.
12.	14 lbs. ..	Pinkeye Kemp	200 lbs., over 14 times.
11.	14 lbs. ..	Arrowsmith's Seedling	179 lbs., or 13 times.
12.	14 lbs. ..	Fluke.....	95 lbs., or 7 times.
13.	14 lbs. ..	Bloomer	92 lbs., or 6½ times.
14.	8 lbs. ..	Rosse's Early.....	272 lbs., or 34 times.

—(*The Gardener.*)

GARDENS IN EAST KENT—NEWLANDS.

Newlands, the residence of James Lake, Esq., is near the direct road from Faversham to Sittingbourne, and about three miles from Faversham. The surrounding country presents no striking feature, no view on which the eye "loves to linger;" the only prospect of any considerable extent being across the low, flat marshes of Teynham, over the dreamy Swale, famous for its oyster beds, with the Isle of Sheppy in the distance. The soil of the neighbourhood is generally a deep rich loam, but it varies very much, and would form an interesting study for the geologist; in a radius of a few miles may be found deep beds of clay or brick earth next to equal depths of a smooth kind of sand containing very little gritty matter; then may be seen beds of gravel of irregular depths, and then, as at Newlands, solid beds of chalk of immense thickness.

Passing from the entrance along the carriage drive, bordered with shrubs, the mansion, a modern building of moderate dimensions, is before us. At the extremity of this drive, on the right, advantage has been taken of a vacancy in the shrubs, caused, probably, by the proximity and shade of many lofty deciduous trees, to form an ornamental fernery, which struck me as being in very good taste. It consists principally of a prettily-constructed archway leading to a winding path which is lost among the trees; the vacant space on each side of the archway is occupied by irregular masses of brick burrs, of which material the arch is also formed. The burrs are a number of bricks, which, having run together in the kiln, are useless for building purposes; they are slate-coloured or bluish grey, a fine neutral tint, harmonising well with the sombre hue of the dark foliage of the surrounding trees. Many choice Ferns were flourishing among the burrs. I particularly noticed a handsome specimen of Lastrea Filix-mas cristata angustata.

A door close to the fernery opens into a back yard, on the opposite side of which is the principal kitchen garden, enclosed by walls and glass houses. Turning to the right from the entrance we at once come to the orchard house, a somewhat low lean-to 80 feet long by 14 feet wide; it is glazed with Hartley's rough plate glass, and heated by two 4-inch pipes. The front is occupied with Peach and Nectarine trees planted in the border, and trained to the roof, which is supported by a number of light iron pillars along the centre. At each of these pillars a Vine is planted, the principal kind being Black Hamburgh. These Vines are trained under the upper part of the roof, and were in full health and vigour, and laden with a heavy crop of fine, well-shouldered bunches, numbering fully five hundred—a splendid crop, but not superior to that of last year, which I saw a little later in the season. As the fruit hangs on a level with the eyes of a person standing erect, the number of bunches appears perfectly bewildering, but notwith-

standing the attractiveness of this magnificent crop of Grapes, as one passes along the house the eye is quickly attracted by the fine healthy foliage and abundant crop of Peaches and Nectarines. It would occupy so much space were I to notice the trees individually, that I will only note here a few of the more prominent kinds. Of Peaches, Vineuse is a favourite sort; it has a fine, evenly-disposed crop. Early York is much valued for its earliness, ripening before any other kind. Among the others are Royal George, Red Magdalen, Noblesse, Barrington, and Bellegarde, highly valued for its keeping qualities. Amongst Nectarines, Monstrueuse comes first; it had an abundant crop very highly coloured, and was named to me as a splendid variety. The others are Violette Hâtive, Roman, Hunt's Tawny, and Stanwick; the last is cropping freely, but here, as at many other places, its propensity to crack has brought it somewhat into disrepute. Pausing to take one last glance, the only thing to regret was that the house was not loftier, and it might have been easily made so, by making it hip-roofed. From the skilful way in which every inch of space was turned to account, and the high state of health and fruitfulness of the whole of the occupants, I could not but think so much success must be a matter for congratulation, especially in a season like the present, of orchard-house failures.

In an early vinery adjoining, from which the Grapes had just been cleared, a few fine examples of Orchids treated on the cool-house system were looking very healthy. A fine plant of Oncidium altissimum had produced a short time previous to my visit thirteen large flower-spikes, and it was calculated that they bore at least two thousand blossoms. A Maxillaria 4 feet in diameter, Trichopilia tortilis, and Miltonia spectabilis just coming well into bloom, were the most prominent plants. At the extremity of this range is another early vinery, from which the fruit had all been taken, but the Vines were still clothed with large foliage of a deep green hue. Here were some handsome specimen zonal Pelargoniums. From these, as being of first-class excellence as pot kinds, I selected Lucius, bright rose with an abundance of large trusses; Roi de Platze, Rebecca, and Madame Mézard, very deep red; Alexandrina, a bright pink; and Louis Veuillot, a fine bold scarlet.

In front of the house last mentioned are two short ranges of glass, the first a pit in which some Melons were fruiting well, and the next a low hip-roofed Cucumber house; the plants here had been fruiting for a length of time, and a few good Cucumbers were still hanging on the trellis. The kind most liked is a hybrid bearing a close resemblance in all points to Rollisson's Telegraph. The flue by which the house is heated is carried on into a Mushroom house adjoining. A glance at the beds showed that the culture of Mushrooms was thoroughly understood. Nothing could be more satisfactory than the abundant crops of Mushrooms, varying in size from the smallest button to the full-sized Mushroom. I have frequently heard it remarked that cultivated Mushrooms are rarely equal to those gathered from a meadow. If cultivated Mushrooms could always be cooked when just expanding from the button state, this complaint would never be heard; but, in order to maintain a constant supply, some Mushrooms must always be left on the beds for a day or two after attaining maturity, and it is in these that a deficiency of tenderness and delicacy of flavour is perceptible.

On passing from this garden under an archway in the wall opposite to the orchard house, a small lean-to stove facing the pleasure grounds is the next object of interest. It contains an interesting and healthy collection of stove plants, Ferns, and Lycopods. The usual kinds of Caladiums were here too, and good plants of Alocasia metallica, Sanchezia nobilis variegata, Dioscorea marmorata, and a Gongora maculata with some fine spikes of bloom. The collection of Selaginellas is good, although many of the newer kinds are not yet grown; yet fine plants of S. variabilis, Willdenovii, umbrosa, and viticulosa must always command attention. The Ferns are well-selected and choice. I was much pleased with a handsome plant of the beautiful Pteris tricolor; a large plant of Nephrolepis distans was also conspicuous from its pretty fronds and graceful trailing habit. The Fennel-like fronds of Asplenium viviparum were also very striking. Many other elegant kinds were equally worthy of notice, but I do not think a long dry list of well-known plants can possess much interest for the general reader; I shall, therefore, conclude my notice of this house by observing that Passiflora Decaisneana trained under the greater part of the roof afforded an agreeable and useful shade to the plants beneath it.

From the stove a winding path passing through, or rather along, the margin of the lawn, leads to the conservatory and mansion. On each side of this path are groups of flower beds, in the arrangement of which no particular design is followed, yet the effect produced is very pleasing. The beds are simple in form, and are well filled with plants, the colours of which are arranged in exceedingly good taste. Some beds were so beautiful as to be quite worthy of notice. The first that attracted my attention had a broad margin of Perilla pegged closely; next this was an equally broad band of Pelargonium Crystal Palace Gem, and in the centre was a bold mass of Pelargonium Rose Queen. A circular bed had a broad margin of Mrs. Pollock, and the centre was divided into quarters with the silver-variegated Pelargonium Silver Queen. The quarters were filled with Verbena Purple King, and a plant of Ricinus purpureus major occupied the centre. The lines of Silver Queen were very skilfully planted, tall plants concealing the stem, and meeting the foliage, of the Ricinus; and from these tall plants the lines were beautifully graduated with others of suitable heights outwards and downwards to the border of Mrs. Pollock. Although this bed was very beautiful, yet had Lobelia speciosa been used in place of Purple King Verbena, the effect would have been still better. In another bed a novel and pretty effect was produced by planting a broad margin of Antennaria tomentosa; inside this margin the surface of the bed rose abruptly in a kind of miniature "ramp" a few inches high, and the centre of the bed was level with the top of the ramp, on the face of which was a single row of carefully-selected plants of the common Houseleek (Sempervivum tectorum); next this came a row of Lobelia speciosa, and the centre was filled with golden Tricolor Pelargonium Lady Cullum. A striking feature in another bed was a particularly handsome broad line of the silver Euonymus. The arrangement was—first row, Arabis variegata; second row, Alternanthera spathulata; third row, Euonymus radicans variegatus; fourth row, Lobelia speciosa, and the centre, a mass of Pelargonium Multiflorum, an excellent deep scarlet variety, of a compact, yet spreading, very free-flowering habit. I was especially struck with the simplicity both in the form and arrangement of these beds; there was no intricate geometrical design, no attempt at any of those imitations of larger places which so often prove abortive, but just a few simple beds well filled with plants of sterling merit skilfully arranged; and when the eye became dazzled with their bright hues, the broad expanse of the beautifully-kept lawn stretching away from them till it was lost under the shade of overhanging trees, offered the most agreeable repose.

The conservatory has a plain exterior, in perfect harmony with the mansion, and is a few yards distant. It may be described as a lean-to, but it has a few feet added to its original width in a rather singular manner, very much increasing its usefulness, but not adding to its beauty. This house contained the finest collection of Fuchsias it has ever been my privilege to see. Let my readers picture to themselves a bank of these beautiful flowers formed of plants ranging from 1 to 2 feet high up to enormous giant standards of 12 feet, with heads of bloom many feet in diameter. There are nearly eighty varieties, not one, but several plants of each kind, taking us as far back in the history of Fuchsias as Banks's Glory, with its closely-folded corolla, and enabling one at a glance to compare it and other old "standards" with kinds of a later date, having such expansive corollas and broad recurved sepals, as War Eagle, or Father Ignatius. There was almost every shade of colour hitherto developed in this charming family, and every plant appeared in robust health, the rich hue of the deep green foliage serving to increase the splendour of the thousands of pendent blossoms. I had, therefore, before me such a sight as is very rarely to be met with. Fuchsias, Fuchsias everywhere; in the body of the conservatory the magnificent bank I have attempted to describe; along the front of the house a row of fine pyramids plunged, and just coming into bloom, most of them being from 6 to 8 feet high, and well furnished with branches from "keel to truck;" on the side stages at each end smaller plants; and on the pillars, the stems of others whose branches were trained to the roof, their blossoms hanging in rich clusters overhead. Amongst these Madame Cornelissen was very conspicuous, its pretty blossoms of white and pink producing a charming effect. The standards at the back of the group were very fine; one of Venus de Medici must have been 12 feet high; its enormous head was a perfect mass of blossom; so was that of Banks's Glory, which was quite 4 feet in diameter, and the height was the same as that of Venus de Medici. Souvenir de Chiswick, too, had a fine head 4 feet in diameter; it was not so tall as some others, but

I considered it the most perfect specimen of a standard Fuchsia I had ever seen.

The most notable kinds in this collection were, amongst double corollas, Blue Beauty, of good habit of growth, a fine pyramid 7 feet high; Vainqueur de Puebla, white corolla, a pyramid 8 feet high; Sanspareil, double white; Humboldtii, a fine standard; Diadem; Norfolk Giant; and Serratipetala, a fine distinct kind. The base of the dark violet corolla is striped with crimson, and the edges are beautifully serrated. Of singles, the best are King of the Fuchsias, Lucrezia Borgia, with an immense mottled corolla; Constellation, having its corolla so much expanded as to be almost flat; Enoch Arden, Conquest, Roderick Dhu, Mademoiselle Tietjens, Bland's Floribunda, very free-flowering; Guiding Star, a splendid pyramid; and Alexandrina, a pyramid 7 feet high. Father Ignatius, too, was conspicuous among dark single kinds for the exquisite shape of its corolla.

As I was reluctantly turning away from the Fuchsias, I caught sight of plant after plant of the new Golden Coleuses, fairly dazzling one by their brilliancy. In speaking of Fuchsias, fine even as those I had just seen, one never thinks of applying such a term as gorgeous to them; but as regards these plants of Coleus, no other word would serve to convey a just idea of the richness of their leaf tints. I noted Queen Victoria and Baroness Rothschild as the most brilliant two kinds. Princess Royal, Her Majesty, Duke of Edinburgh, and Princess of Wales, are all very beautiful, and worthy of cultivation.

Passing across the lawn from the conservatory I noticed that all the most prominent shrubs grouped around it bore tokens of the exercise of great care in pruning, almost every shrub being a handsome specimen. The Portugal Laurels are particularly fine; one which I measured was 15 feet in diameter, 20 feet high, well clothed with foliage to the ground, and of very handsome proportions. Growing amongst the shrubs was a Paulownia imperialis, about 20 feet high, in full bloom at the time of my visit, August 16th. From the extremity of that part of the lawn opposite to the conservatory, a walk sheltered by the boughs of overhanging trees leads to an ornamental pond partly surrounded by a sloping bank of turf, on which are healthy specimens of Wellingtonias, Deodars, and Picea Pinsapo.

From this pond a walk winding among the groups of shrubs which belt the lawn leads to an enclosure, in which were some good crops of vegetables, an extensive collection of the best varieties of Gooseberries, and a plantation of Filberts laden with an enormous crop, the trees being literally covered with nuts from top to bottom. The position is certainly very sheltered, but Mr. Wraight, the gardener, attributes his success to moderate pruning; for instead of pruning the side shoots in closely, the wood is left several inches in length. Close to this enclosure is another principally occupied with well-trained pyramidal Pear and Apple trees; these have been established in their present position for several years, and up to the present time have been very productive, but some of them show signs of incipient decay, and it is quite probable that they will continue to decline. The soil of this garden is an average depth of 14 inches of loam resting on a bed of solid chalk of great thickness. In such a shallow soil fruit trees naturally develope their fruiting properties very early, and as the roots are so near the surface the production of blossom buds would doubtless be very far in excess of that of wood buds, and consequently the trees would, if permitted, go on producing a heavy crop of fruit annually with but very little wood growth; moreover, trees growing in so shallow a soil must be very susceptible of atmospheric influences, and, therefore, after so trying a summer as that of 1868, unless materials for mulching and a good supply of water could be had, trees so situated would be almost certain to exhibit signs of constitutional debility, brought on by the severe trial to which they have been subjected.

I have thus attempted to describe the more prominent features of this attractive place, and whether taken in its several departments or as a whole, nothing can be more satisfactory; everything gives evidence of being cared for with the skill, energy, and intelligence of Mr. Wraight, under whom these gardens have been gradually moulded into their present form. Nor must I conclude these notes without referring to Mr. Wraight's devotion to the science of entomology. In years gone by, when we were neighbours, many a race have we had together after some vagrant member of the Lepidopterous family. That my friend has met with as great a share of success in this pursuit as he has amongst his plants, is evident from several cases of "subjects" suspended on the walls of his cottage.—Edward Luckhurst, *Egerton House Gardens, Kent.*

THE MANETTI ROSE AS A STOCK.

Will some of your correspondents furnish me with their opinions of the Manetti stock as a substitute for the wild Rose? I have heard it condemned as an imposition on amateurs, while a great success in a commercial point of view. Does it, or does it not, eventually suffocate the scion by the very rapid and strong growth which is said by some to constitute it a sure money-maker for nurserymen?—C. A. G.

[We asked the Rev. W. F. Radclyffe for his opinion on the subject of the above query, and now publish his reply. There have been so many doubts upon the subject that we shall be obliged by reports of the experience of other practical men, cultivators of Roses in other soils and localities:—

"The Briar, or wild Rose, is a capital stock for strong cold land, such as rich clay or strong loams. It is not a good stock for light hot lands, so far as Hybrid Perpetuals are concerned. It is curious but true, that in light lands strong growers such as the summer Roses and Tea-scented Noisettes, do well on the Briar. The others do not grow strongly enough to keep the Briar healthy. For dry lands, unsuitable to the Briar, the Manetti stock is best. It is, moreover, more defensible than the exposed Briar. In strong lands the Manetti stock drives the Rose into pole-stuff. In such a case the plant must be severely root-pruned or removed annually, and little or no manure given. The Manetti stock is not an imposition. The failure of Roses on this stock has arisen from propagators budding the Rose so high on the stock, and from persons not planting the Rose sufficiently deep to cover the stock over the point of union. Budding on the Manetti is the easiest way to obtain Roses on their own roots. Before you plant the Manetti-stocked Rose, cut out all the eyes in the stock; then plant the Rose, treading the earth close up to the stock, which will prevent brood. If the land is poor put earth over the roots, and then a layer of rotten dung alternately with earth, and tie the Rose to a stake. Do not cut the Rose back till spring. Never prune any Rose at planting time. Prune your Rose on the Manetti stock, as if it were a Hybrid China; merely thin out useless stuff, and cut the shoots and branches to a good eye. If the plant should be seriously affected with chlorosis all over, you had better in spring cut it down, as good wood cannot come from bad wood.—W. F. Radclyffe."]

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

Cypripedium Parishii (Rev. Mr. Parish's Lady's Slipper). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Diandria.—Native of the Moulmein Mountains. A superb species. Purple and green.—(*Bot. Mag.*, *t.* 5791).

Ceropegia Sandersoni (Mr. Sanderson's Ceropegia). *Nat. ord.*, Asclepiadaceæ. *Linn.*, Pentandria Monogynia.—Native of Natal, on the banks of the Umgeni river. Flowers very conspicuous, though pale green spotted with dark green. A tall climber.—(*Ibid.*, *t.* 5792.)

Acer rufinerve *var.* albo-limbatum (White-edged, red-nerved Maple). *Nat. ord.*, Sapindaceæ. *Linn.*, Polygamia Octandria.—Native of very different climates in various parts of Japan.—(*Ibid.*, *t.* 5793.)

Primula Pedemontana (Piedmontese Primrose). *Nat. ord.*, Primulaceæ. *Linn.*, Pentandria Monogynia.—Native, and a lovely one, of the high Alps of Piedmont and Switzerland. Flowers purplish rose.—(*Ibid.*, *t.* 5794.)

Dorstenia argentata (Silver-leaved Dorstenia). *Nat. ord.*, Moraceæ. *Linn.*, Monœcia Diandria.—A stove variegated-leaved plant from South Brazil. Leaves dark green, white-centred, marbled with paler green.—(*Ibid.*, *t.* 5795.)

Rhododendron *Mrs. John Clutton.*—"This variety is considered by competent judges to be the best hardy white at present in cultivation. It has all the symmetry of truss, and smoothness of form and outline, that the most fastidious could desire; it is a remarkably free-bloomer; its flowers, from their thick and waxy texture, are, moreover, most enduring; and it comes in late, so that it is not often frost-blitten. The colour is white, just at first showing the slightest tint of blush, which passes off as the flowers become matured, when it stands out conspicuous by its purity—indeed, Purity itself, another ex-

cellent white variety, is quite surpassed by it in all essential points of merit,—truss, form, colour, and season. The pyramidal outline of the truss, with the flowers regularly disposed, each supporting its neighbour, is as near perfection as need be desired, while the smooth outline of the blossoms adds very greatly to its charms in the eyes of connoisseurs. Rhododendron Mrs. John Clutton was raised from the variety named Album elegans, in the marvellous collection at Mr. Anthony Waterer's, Knaphill Nursery, Woking."—(*Florist and Pomologist*, 3 s., ii., 193.)

WORK FOR THE WEEK.

KITCHEN GARDEN.

The wet weather we have had lately has encouraged the growth of weeds, and rendered their destruction a matter of difficulty. The best way to destroy them, when hoeing and raking are not practicable, is to dig them down, especially the young generation. *Cardoons* and *Celery*, earth-up at all favourable opportunities. The latest of the Celery plants may be planted without making ridges for them, using for manure only a little leaf mould and charred earth; they will come in for soups, and will keep up the supply till May or June. The strongest plants of the early *Cabbages* may be planted out for late Coleworts. The main crop to stand the winter must be planted now in well-manured ground; this is a most important crop, and larger breadths ought to be planted than is usual. Plant plenty of *Endive* near walls and wooden fences, to stand the winter. Let all the old *Scarlet Runner* pods be picked off, except a few of the best for seed, as they exhaust the plants for a succession. *Winter Spinach* must be thinned, working the hoe well through to loosen the soil. *Turnips*, thin the latest crop. *Lettuce* for the last autumn supply, put in some strong plants of the Bath Cos in a warm sheltered situation, scattering plenty of charred earth on the surface to annoy the slugs. Gather *Camomile* flowers, &c. *Basil* and *Sweet Marjoram* should be bunched and packed in a close box to preserve their aromatic flavour. But little sowing is now required, presuming that all the Cauliflowers, Lettuces, Cabbages, and Spinach have been sown in August. A patch of frame *Radish* may be occasionally tried according to the consumption.

FRUIT GARDEN.

Disbud and stop Fig trees, and stop the points of all strong-growing Peach and Nectarine trees; take away all nails in the way of fruit swelling. As previously recommended, frequently look over fruit remaining out of doors, and gather it as it becomes fit; also, examine that stored in the fruit room, as there will occasionally be found a few decaying for some weeks after housing, and such should be removed as soon as perceived. Keep the fruit room cool and well aired, in order to allow of the escape of the moisture given off by the fruit, which is considerable for a few weeks at first. Where it is intended to make fresh plantations of fruit trees this season, the ground should be prepared at the earliest convenience, and any fresh soil to be used for planting should be thoroughly exposed to the action of the weather, so as to have it in a mellow state when wanted for use. If not already done, clean and dress Strawberry plantations, clearing away all useless runners, and giving a good dressing of manure when necessary, but be careful to select that which is thoroughly decayed, and which can be covered without the necessity of digging deeply or injuring the roots.

FLOWER GARDEN.

The principal work in this department for the present will be mowing and clearing up, and if neatness is to be maintained sweeping up leaves will now require daily attention; also, keep gravel walks free of weeds and moss, and roll them frequently when wet. Continue to afford young plants in pits and frames the most careful attention, and endeavour to have them well rooted and strong, without keeping them so close or warm as to render them soft and liable to fog off on the first approach of winter. Admit air freely to all plants that are sufficiently rooted to bear it without flagging. Plants newly potted off should, however, be placed in a gentle bottom heat, which will impart a little warmth to the soil, and encourage the formation of roots, but sufficient air should be given to prevent anything like weakly growth. Cuttings of Scarlet Pelargoniums may still be put in where the stock is deficient. Scarlet Pelargoniums will root almost anywhere. See to securing as many cuttings as possible of any scarce plants which it may be desirable to increase, while there is a fair chance of rooting them; also, be prepared to protect Pelargoniums and other plants which it may be intended to take up and winter, for we may expect frost any time after this season; and if such plants can be protected, so as to prevent the foliage and young wood from being much injured, they are much more easily wintered. Where annuals have sown themselves on borders let them, if possible, be retained; they will bloom early and strongly in spring, especially the Californian kinds, and may then, if desired, be transplanted to other situations.

GREENHOUSE AND CONSERVATORY.

If the season continue mild—that is, if the thermometer do not fall below the freezing point, I should recommend full exposure for the Heaths and greenhouse plants for a week or two longer. These remarks apply more to hardwooded plants than to Pelargoniums, and the like; but even with any plants, if the weather is tolerably fine, it is not advisable to commence housing them too soon, except in situations where the lights can be removed during the day. No time, however, must be lost in preparing the houses for the reception of the plants, by cleaning every part thoroughly, and by forwarding such repairs as may be necessary. The pots in which the plants are growing should also be made thoroughly clean, so that should any change of weather occur, no delay may be experienced in housing them; and if time can be spared to have the plants all neatly staked, they will look all the better, though staking may be performed during the winter. All specimens should have been potted before this time, but if any remain, it will be better to pot them now than to leave them pothound throughout the winter. Acacias and other winter-flowering plants, having been subjected to a period of comparatively dry treatment to insure their blooming profusely, should now be supplied rather liberally with water at the roots, in order to bring them into flower during the dull season. They will then be much more esteemed than in spring, when flowers are plentiful. Manure water, if it can be used, should be given frequently to Chrysanthemums. Give air freely on favourable occasions, avoiding cold draughts against plants that have been brought from a warm house, and guard against damp by using gentle fires, with a little top air on wet days. Let pot specimens in bloom be frequently re-arranged, so as to make the most of them, for the finest specimens become too familiar to be interesting when allowed to remain too long in one place. Be careful not to overwater plants brought from the stove, and also to use the water in a tepid state. Use weak liquid manure for Salvia splendens, so as to preserve the plants in a vigorous state, and keep them blooming as long as possible. Pay attention to securing a plentiful succession of plants for maintaining the gaiety of the house during the winter. Of routine work, Violets must either be potted, or placed in their blooming frames before long. Attend to Mignonette, by thinning it in time. Pot Intermediate Stocks for early blooming, also a few annuals for the same purpose. Tropæolums must also be started, and no time must be lost in procuring and potting such Hyacinths, Tulips, and other bulbs as may be required for forcing. Place Chrysanthemums, Cinerarias, &c., under cover as soon as possible.

STOVE.

Give abundance of air here at every convenient opportunity, and assist the plants to complete their growth in a strong and healthy manner. Do not attempt to bring plants which are growing prematurely to rest, because of ripening the growth, but keep them steadily growing until they go gradually into a state of rest. Many stove plants, especially Ixoras, may be induced to make as much growth during the winter as in the summer, and there are other plants which will do the same. Sprinkle the walls and pathways twice or thrice daily, and bedew the plants occasionally with tepid water on bright days. Maintain a brisk temperature during the day, but allow the thermometer to fall to about 60° during the night.—W. Keane.

DOINGS OF THE LAST WEEK.

For nearly a week we have had rain and wind every day, the wind at times approaching a tempest. The weather on the whole has been favourable to root and grass crops. Woods and plantations have been thinned of their rotten branches and weaker twigs by the wind, and even trees in pleasure grounds found its force, and so far bent before its influence; but with us little or no damage was done. We hear of sad wrecks made in many flower gardens. Here, exposed as we are, the wind did little injury except to some lofty Hollyhocks that escaped from their tyings, though few were broken. The flower beds, which were much exposed, were anything but bright; but others,

protected as a border in front of a wall, suffered but little from the effects of the wind and rain. We hear much of broken plants, and the soft tops of Pelargoniums, Calceolarias, &c., careering over parks and fields, but of this we have had no experience; and yet no place could well be more liable to injury from the force of a gale, unless entirely exposed on the windy side of a mountain. We attribute our security from breakages to rather thick planting and bush-sticking every bed and border as planted. This takes some time at planting, but it makes us comparatively safe, which we never were before resorting to the practice. Of course these bushy twigs and branches do not look over-inviting in the beginning of June, though even then they may be put in neatly, and the object seen does away with the feeling of roughness and want of neatness. In a good growing season the sticks are soon concealed, and as the summer advances, if a few twigs show beyond the plants and their blooms, they are easily nipped off with the point of the knife. We are not aware that a single plant has been broken in the flower beds, though many of the plants are rather brittle, and this in such storms we attribute to the plants being secured by a network of twigs. There is no analogy in results between using such twiggy branchlets, and straight sticks or stakes and tying. Very little tying is wanted with the twiggy branchlets. We take anything at a pinch—the small ends of Hazel branches, the twiggy pieces of Larch branches; but the best of all are those of Spruce, especially the points of the branches, after they have lain long enough to drop all their foliage. If such have been used as the bottoms of stacks, &c., all the better, as the weight makes them straighter. These, according to the size of the plants to be sticked, are cut in lengths of from 15 to 30 or more inches, and the more side shoots and twigs these short fan-like sticks have, the better do they answer. The branches and shoots of the flowering plants grow through the twigs, and it requires more wind than we have yet had this season to dislodge them. We remarked lately that if the weather became fine after the rains, the beds would again be beautiful. All the week until the 17th we had dull showery weather when there was not a gale. On the 17th we had much sun, and a dry morning without dew, so much so that we used our grass-cutters at 6 A.M., and by the afternoon the beds had regained something of their former brilliancy. So far as the flower garden is concerned, the autumn display will depend on dryness and sunshine. We hope to see it good for at least a month or six weeks.

KITCHEN GARDEN.

Celery.—The rains having given a good soaking to the Celery ground, a part of what had been previously tied had a good earthing-up at once. For what would be taken up early we used the common soil at the sides, from which a row of Peas had just been removed; but for that which would stand longer we put a little ashes from our furnaces round the plants—that is, a thin layer of ashes between the plants and the earth, which helps to keep worms and slugs from disfiguring the stems. An easy mode of doing this is to have some semi-circular pieces of tin or zinc, such as pieces of old house-spouting, &c., in lengths, say, of 15 or 18 inches, two of these nearly to enclose the plant and receive the riddled dry ashes inside. When the earth is applied the tins are drawn up, and the earth pressed firmly to the ashes. When ashes are plentiful, it is a good method after earthing-up to throw some with a spade all over the bed, as it helps to keep soft-skinned intruders away. Took the opportunity of such a dry day as Friday to clean and tie up more beds of Celery, and just put a sprinkling of finely pulverised soil from the sides over the roots. This will help to keep the moisture in if dry weather should follow.

A single fact is often worth a number of inferences. That fact clearly shows us all that has been advanced on the bit-by-bit earthing-up of early Celery is based on a principle that scarcely permits of error. On examining some Celery washed and ready for use, we noticed it was harder and firmer to the touch than it ought to be, so as to be short and crisp, as well as sweet, the three essentials for good table Celery as an accompaniment to cheese, &c. That Celery had been thoroughly soaked more than once before earthing-up, and yet on taking up some roots we found these dry enough. The tops of the leaves exposed had evaporated all the barrels of moisture we had given in the parching weather. That Celery had been earthed-up at once. If we had put the earth to at three or four times, and without fresh watering, we should have expected almost every plant to have thrown up its flowerstalk. If the weather had continued dry and hot, we should have expected the same result. No rains that fell would ever reach the roots; they would only act in lessening evaporation from the foliage. Openings and holes were therefore made between the rows, and enough of water poured down to saturate the soil at the roots, and now the Celery is crisp as it ought to be. The man who gave the last waterings before earthing-up could scarcely believe that it was possible for the great mass of roots to become so dust-dry. There are few plants that evaporate more moisture than Celery in a hot sunny day. By this or other means allow the roots to become dust-dry, and in self-defence the plant will throw up its flowerstalk to perpetuate the race. The same principle holds true in all vegetable growth. A severe check to luxuriance is the most effectual mode of securing early flowering and seeding.

House Sewage.—Let us once more impress the importance of the use of this on our cottager readers. For most growing crops belonging to the Cabbage family it is invaluable, if not given too strong, and that can be remedied where other water is to be had. In general the water that comes from laundry, scullery, &c., will not be too strong for such gross feeders. It may be applied at any time, but a good watering before rain is expected tells most quickly and surely. We would have used more could we have obtained it. A border of Cauliflowers showing the dull slaty appearance of the foliage, had a dose on the 8th, and that and the rains of the 10th, and onwards, have wrought wonders.

As far as our own observation and experience go, we think too much has been said about deodorising liquid manure. We would be bold enough to say, that to produce the greatest effect, it should be used fresh enough to save all trouble about deodorising. We have noticed a very marked difference in the effects on grass land and growing crops between using liquid manure after it had fermented in a reservoir, and similar liquid used before fermentation had taken place, or to a very limited degree. The fresher the liquid the more effective it was; the ammonia, &c., was not dissipated before using it. People have fallen into the habit of valuing a manure in proportion to the nasty scent that comes from it. Now, as a break-in on the old idea, it would be a step in the right direction if we could convince ourselves that liquid manure, if equally strong, would be more effectual before it had acquired the unpleasant scent than after it had done so. A very successful farmer, who keeps a large stock, looks sharply after his manure tank, and reduces its strength when too strong, but whenever practicable he puts it on the ground in its fresh unfermented state. The extent to which the manure-water cart had gone could be seen easily in Barley, hay, pasture, &c. Even where a crop of hay had been taken, the young grass had a deeper green than the other parts of the field. He found that even when applied to grass pastures rather strong, so as to brown the young herbage at first, the roots were so nourished that soon all trace of the injury was lost. In gardens it is easy to avoid wetting the leaves when applying it to the soil and roots. As already stated, it is most effective when applied before rains. Strong liquid manure, consisting chiefly of the urine of animals, should be diluted with five times its quantity of water before using it.

FRUIT GARDEN.

The winds have shaken the fruit very much from tall trees, but though some has fallen, comparatively little harm has been done on low bushes or pyramids. We have no objection to old-fashioned orchards, and especially when the under crop is grass, manured at times. Those are excellent for insuring always an abundant supply to an establishment, and the gardener is little troubled, if a few trees should be barren each year, which he must be if he has only a few trees altogether in a kitchen garden to depend upon. But where room is to be made the most of, and the greatest pleasure is to be derived from the culture of fruit trees, commend us to low bushes or pyramids—say from 6 to 8 feet in height. The wind will have but little power on these, comparatively speaking, and the fruit is easily examined, and easily gathered. If we had the chance, we should be inclined in small gardens to adopt the cordon system of training—that is, having only one or two shoots from a tree, and spurring them from top to bottom. We have little faith in mere fanciful modes of training, but by the one-shoot system a great variety can be grown in little space, and each kind on its own bottom, as it were. We believe that great results may be achieved by this plan in small gardens, where the lines of fruiting stems can be kept near the ground, and a protection given in severe weather.

We have heard that several of our readers no farther north than we are, have had Williams' Bon Chrêtien Pear fit for use

naturally for some time past. We could only gather some fit for use by the 14th, and that after giving them a help with artificial heat for a week. This is a Pear in flavour by itself, but it will only keep a short time if not gathered frequently, selecting the most forward fruit first, and giving them a little help. We have thus had it six weeks from the same tree, and that not a large one. It should be observed, that in forcing after gathering, the Pears should not be exposed so as to lose their moisture. We prefer placing them in a pot, with a covering of paper and sweet hay over them, and a stout cloth tied over the pot. Other conveniences might be neater and better; the only thing is, in forwarding the mellow ripening, not to deprive the Pear of its natural juices, otherwise it will be apt to eat either hard, or soft and sleepy. This Pear is worth a little trouble.

We have had some fine Figs from the open wall, where no training was attempted, the shoots being left to dangle from the wall. Some of these were larger in winter than usual, but passed through it without protection, owing to its mildness. These are higher-coloured and firmer in texture than those we have under glass. We gathered a few at the end of August, and more at the beginning of September, the earliest that we have gathered out of doors in this district. Of course, it is nothing to those who live in the sunny south, as in Devonshire. We shall never forget the sight of the row of low standard Fig trees at Mamhead, and the weight of large luscious fruit they carried. It is well to have all the shortening and regulating of the summer shoots of fruit trees finished, so that the autumn sun shall have less to do in insuring maturation of the wood. In shortening the shoots of Peach and Nectarine trees, it is best to shorten to a wood or triple bud, as some old trees produce wood buds rather sparingly. All who contemplate planting fruit trees in houses or out of doors, should bear in mind, that if that work is done in October, even if towards the end of it, nearly a season will be gained over those trees planted in March, or later. Where time can be found, it is well to prepare for planting, by trenching, border-making, or preparing small stations for the well-being of the tree, whilst the bulk of the ground remains at first untouched or unprepared. It should be kept in mind, that fruitfulness and luxuriance are over opposed to each other; therefore, avoid much dung, and the little used should be sweet. Deep rooting encourages growth, shallow rooting encourages fruitfulness; therefore, keep the roots near the surface, and if more vigour is necessary give that vigour by surface dressings. These matters attended to, pruning at the top, and especially pruning at the roots, will be less necessary.

ORNAMENTAL DEPARTMENT.

As already stated, we do not yet despair of a fine autumn display; but everything will depend on sunshine. Several times we have had Scarlet Pelargoniums and Calceolarias better in the end of October than in July; and at any rate we shall not again suffer from drought this season. Our lawn never was brown this season, but it was beginning to turn so, and now it is beautifully green, just the colour to show off brighter hues to the best advantage. Looked at separately, we never had finer groups of Scarlet Pelargoniums than last year, but then they looked so out of place with a burned-up lawn alongside of them.

Annuals.—We could not use our flower beds for sowing; but we sowed in a border rather thickly in rows, to bloom there, or be transplanted in spring, such annuals as Nemophilas, Clarkias, Giliaa, Erysimums, Godetias, Collinsias, especially bicolor, Sanvitalia, Saponaria, Silenes, especially varieties of pendula, along with Candytufts, Alyssum, and Virginian Stocks. The last three will bloom early in winter if it be mild, and will come in as an addition to cut flowers. The ground for these, if enriched at all, should merely have a little very rotten and sweet manure forked in at the surface; and the soil, if mellow, should not be deeply stirred if transplanting afterwards is the principal object, as it is in general best to raise the seedlings that have come up thickly, not singly, but in little tufts, and plant with a ball adhering to them. The chief difficulty in making a fine show with these and bulbs, Daisies, Heartsease, Forget-me-nots, &c., in spring, and yet having beds brilliant in summer and autumn, arises from the unwillingness of the owners of flower gardens fully to appreciate the simple fact, that to do this a reserve garden for storing and growing, and more labour power, are absolutely essential.

We gave plenty of air to seedlings, in pots, of Mignonette, Schizanthus, Stocks, and annuals intended for blooming early in spring. When a little heat can be given in a frame in spring, we prefer sowing Mignonette early then, instead of making a second sowing now, involving the trouble of protecting it during the winter. Many common plants grown in pots come in useful for cut flowers when house flowers are scarce.

Our Violets, Neapolitan and others, are not so clean as we would wish, otherwise we should soon take them up and pot them, or replant them in a bed or pit. The rains will help to clear away the last of the red spider that attacked them when we were short of water. Looked over many plants whose blooming was over, as Achimenes, and set them in a dry place, where, from receiving little water, they might perfect their tubers. Now is a good time to pot the most forward lot of bulbs, as the more naturally they fill the pots with roots before starting them by forcing the better they will succeed. Proceeded as far as we could with putting in cuttings for next season, delaying as long as possible for reasons recently stated. As to looking after greenhouse plants out of doors, see recent notices. Potted Cinerarias and Primulas for early flowering, and inserted cuttings of the best kinds of Coleus, that we may be able to keep them in little room in winter, and so dispense with the large plants that would take up much space. For out-door display, Coleus Verschaffelti is best with us. It has stood the weather remarkably well; all others suffered more from the drought, and the wind and rain. A brownish Coleus, Berkleyi, is, perhaps, the next best. All of them would make splendid beds under glass. No doubt in warm places—about London and south of it, most of the varieties will do well out of doors. Here we succeed with Coleus Verschaffelti by planting strong plants late—not until the end of June at the earliest.—R. F.

COVENT GARDEN MARKET.—September 22.

The arrivals of foreign produce have been considerably lighter this week, and we have very little gathered fruit, but the windfalls exceed in quantity anything that has been known for many years. Pears consist of Williams's Bon Chrétien, Duchesse d'Angoulême, Louise Bonne, and Brown Beurré; Apples of Ribston Pippin, King of the Pippins, and Kerry Pippin. Potatoes are plentiful. Complaints of supertubering and blight have reached us from heavy clay lands, but are not generally confirmed.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples ½ sieve	1	0	to	1	6	Melons each	2	0	to	6	0
Apricots doz.	0	0		0	0	Nectarines doz.	4	0		8	0
Cherries lb.	0	0		0	0	Oranges 100	10	0		14	0
Chestnuts bushel	0	0		0	0	Peaches doz.	6	0		12	0
Currants ½ sieve	0	0		0	0	Pears (dessert) doz.	2	0		3	0
Black do.	0	0		0	0	Pine Apples lb.	3	0		6	0
Figs doz.	2	0		4	0	Plums ½ sieve	3	6		5	0
Filberts lb.	0	6		1	0	Quinces doz.	1	6		2	6
Cobs lb.	0	6		0	9	Raspberries lb.	0	0		0	0
Gooseberries quart	0	0		0	0	Strawberries lb.	0	0		0	0
Grapes, Hothouse lb.	2	0		5	0	Walnuts bushel	10	0		16	0
Lemons 100	10	0		16	0	do. 100	1	0		2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes doz.	3	0	to	6	0	Leeks bunch	0	4	to	0	6
Asparagus 100	6	0		0	0	Lettuce score	1	0		2	0
Beans, Kidney ½ sieve	2	6		4	0	Mushrooms pottle	1	0		2	0
Beet, Red doz.	2	0		3	0	Mustd. & Cress, punnet	0	2		0	3
Broccoli bundle	1	0		0	0	Onions doz. bunches	4	0		6	0
Brus. Sprouts ½ sieve	3	0		0	0	Parsley sieve	3	0		0	0
Cabbage doz.	1	0		2	0	Parsnips doz.	0	9		1	0
Capsicums 100	2	0		2	6	Peas quart	0	6		1	6
Carrots bunch	0	3		1	0	Potatoes bushel	2	6		4	0
Cauliflower doz.	3	0		6	0	Kidney ditto	5	0		0	0
Celery bundle	1	0		2	0	Radishes doz. bunches	1	0		0	0
Cucumbers each	0	6		1	0	Rhubarb bundle	0	0		0	6
Endive doz.	2	0		0	0	Shallots lb.	0	0		0	6
Fennel bunch	0	3		0	0	Spinach bushel	2	0		3	0
Garlic lb.	0	3		0	0	Tomatoes doz.	0	9		1	6
Herbs bunch	0	3		0	0	Turnips bunch	0	4		0	6
Horseradish bundle	3	0		5	0	Veget. Marrows doz.	1	0		2	8

TRADE CATALOGUES RECEIVED.

André Leroy, Angers, France.—*Supplément au Catalogue de* 1868.—*Tableau des arbres Forestiers et d'Ornement deja forts.*

Jabez J. Chater, Gonville Nurseries, Cambridge.—*General Descriptive Catalogue.*

TO CORRESPONDENTS.

Auricula, Howard's Eclipse.—"*Auricula*" says that many years ago there appeared in "Harrison's Cabinet," some notice of an Auricula called Howard's Eclipse, grey edge, and wishes to know if anyone can supply him.

Black Pansy (*Peter*).—There can be no objection to the name, although there are several Pansies with flowers as dark and much better. As for the Pelargoniums, &c., they were far inferior to kinds now commonly grown.

Pansies at the Hamburg Show (*S. S.*).—The exhibitor of the Fancy Pansies, noticed in our report of this Show, is a nurseryman, his full address being—Herr H. Wrede, Handelsgärtner, Lüneburg, Hanover.

Select Gladioli (*W. H. M.*).—At the prices you state, the following would be a good selection:—Bernard Palissy, Fulton, James Veitch, Le Dante, Madame Eugène Verdier, Apollon, Madame Vilmorin, Noëmi, Madame Basseville, Duc de Malakoff, Comte do Morny, Le Poussin, Sir Walter Scott, Stuart Lowe, Adèle Souchet, Peter Lawson, James Carter, Ophir, Stephenson, Reine Victoria, Belle Gabrielle, Madame de Vatry, Marie Dumortier, and Madame Binder.

Six Single and Double Hyacinths (*St. Edmunds*).—The following are cheap and good:—Charles Dickens, light blue; Baron Von Tayll, dark blue; Madame Hodgson, pale pink, striped; La Tour d'Auvergne, double, white; Laurens Koster, double, dark blue; Grootvorst, double, blush.

Tacsonia Van-Volxemi Pruning (——).—The leading shoots, as well as the laterals, produce flowers. As yours is a young plant, we would not prune it at all this autumn or next spring, but train-in the shoots as they grow, not nearer each other than 6 inches, and at from 6 to 9 inches from the glass, and where too close together thin them out. You may stop the shoots in order to produce more side shoots for covering the trellis. Keep the plant rather dry during the winter. After it is established, and has grown to the extent required, it may in February be pruned-in or spurred like a Vine, leaving two or three eyes on the side shoots for the production of shoots in summer for flowering. Summer pruning ought to be confined to thinning out the shoots where too crowded, and training them in moderately thinly, so as to afford every part a sufficiency of light and air. If the shoots do not push at the places required, stop them, in order to obtain enough of shoots for covering the trellis. We prefer the rod system of pruning and training, cutting out the shoots which have flowered, and supplying their places with young shoots, which are produced plentifully from the base of the plant.

Cyperus alternifolius variegatus Leaves Browning (*Idem*).—The cause is the sun shining on the leaves whilst wet. They would not be liable to injury from this cause if air were given early, so as to dissipate the moisture before the sun became powerful. We grow the plant in sand, in order to have the leaves well variegated. From April to October the pots should be set in saucers of water kept full, and in winter keep them rather drier. Want of water will cause the leaves to wither and brown, as yours appear to have done. A warm greenhouse, or one having a heat of from 45° to 50° at night, is the more suitable place to winter them in. We cannot name plants from leaves only, flowers are needed.

Propagation of Grevillea, Hakea, &c. (*F. G.*).—Take cuttings of the young shoots when they are ripened at the base. They should be about 3 inches long. Cut across below a joint, trim off the leaflets for about 1 to 1½ inch up the cuttings, and insert them about an inch apart round the side of a well-drained pot, filled to within an inch of the rim with sandy peat, and to the top with silver sand. The pot should be placed in one of larger size, the interval between the sides of the two being filled with crocks to within an inch of the rim, and then with a little moss, surfacing with silver sand, on which a bell-glass should rest. A gentle watering should be given after putting in the cuttings, but do not cover them with the bell-glass until they are dry. Place them in a cool house, shade them from bright sun, and do not water them, or give only a sprinkling to keep the soil just moist. If much moisture condense on the bell-glass, take it off occasionally, wipe it dry, and replace it immediately. In about a month a callus will be formed, and then give a gentle bottom heat of 65° or 70°, and when the cuttings begin to grow, tilt the glass a little on one side, removing it by degrees. We cannot name plants from leaves. A better specimen and flowers are necessary for identification.

Fuchsia Leaves Falling (*An Old Subscriber*).—Some of the leaves are infested with red spider, others with thrips, both a result of the atmosphere being too dry and hot. The plants ought to have been syringed with water twice a-day, and a moist atmosphere maintained by sprinkling the paths, &c., with water two or three times a-day. We would shut the house up closely, fumigate with tobacco, and give the plants a few forcible syringings. The plants will not be of any use this year. Place them out of doors for a month, and take them in before frost.

Wintering Greenhouse Plants in a Room (*Devon*).—The plants you name could not be wintered well in a barn or empty room. They might survive the winter if it be mild, but the darkness would cause the leaves to fall or render them useless. You may try them, however, not giving more water than sufficient to keep the plants alive, and let them have all the light and air you can in dry and mild weather. We have seen Orange trees, Aloes, Cacti, &c., wintered by such means tolerably well, and there was no more light than that admitted by oiled-paper side lights, wooden shutters being put up in severe weather.

Plants for Exhibition to Bloom in May (*Inquirer*).—*Bulbous:* Ornithogalum aureum, Stenomesson breviflolium, Asphodelus albus, Corydalis nobilis, Ranunculus bullatus, Trillium grandiflorum. *Herbaceous:* Dielytra spectabilis, Aquilegia alpina, Campannla pyramidalis, Convallaria majalis variegata, Myosotis alpicola, Ajuga alpina.

Early Potatoes (*Idem*).—Royal Ashleaf, Huntingdon, both kidney-shaped, and Coldstream, a round sort.

Wellingtonia gigantea Fruiting (*J. T. K.*).—We have made some inquiry, but we cannot hear of this tree having ever perfected its cones, so as to produce good seed, but there is no reason why it should not do so when the specimens are older. Mr. Robson says that as far back as 1863 one or two of his young trees showed signs of fruiting when scarcely 4 feet high; but a more vigorous growth taking place, the fruits dropped off or did not ripen. In 1866 a robust, fast-growing specimen produced a cone, which, he says, never became larger than a full-sized hen's egg, although it remained on the tree for three summers. This year the tree, a very fine specimen, 18 or 19 feet high, has a fair crop upon it, the cones being mostly produced at the tips of the shoots; being in clusters, they have a pretty appearance. He also says his cones are mostly globular and not conical, and some are egg-shaped, but the end not pointed. He is not anxious to see either this or any other Conifer in fruit at so early an age, as growth is checked in consequence, and an appearance of premature old age is brought on. He would, therefore, advise you to pick off the greater portion of the cones on your tree, reserving only a few of the best for novelty, and to see if good seed is likely to be produced.

Wintering Seedling Roses (*Amateur Rosarian*).—Instead of wintering the plants in the frames, we should prepare a bed for them in the open ground. After digging it deeply and working in the manure liberally, we would plant out at once—those from the pots about 2 feet apart, and those from the box, which are upwards of 3 inches high, about 1 foot apart. Mulch with litter in November, before severe frost. The plants have done very well—sown in February, now 18 or 20 inches high, and some of them flowered. By planting them out you will be able to see what they are, for as they will grow more vigorously from being planted out they will be more in character. If they are Tea-scented, or delicate sorts, the plants should be wintered in the frames, plunging the pots in coal ashes, and planting-out in April. They cannot have too much air while in the frames. Protection must be afforded from heavy rains, and in severe weather put on a covering of mats in addition to the lights. Dust with flowers of sulphur any that may be mildewed.

Roses in Pots (*M. E. T.*).—Anna Alexieff, Jules Margottin, Senateur Vaisse, Lælia, Général Jacqueminot, Marie Baumann, Madame Victor Verdier, Victor Verdier, Maurice Bernardin, Pierre Notting, Catherine Guillot, Paul Pérras, Madame Willermoz, Alba rosea, Madame Bravy, Madame de St. Joseph, President, Souvenir d'un Ami, Maréchal Niel, Triomphe de Rennes, Céline Forestier. The Tea Roses on their own roots, the others either on their own roots or budded. Let the Jerusalem Artichokes alone till you take them up.

Budding and Removing Roses (*Nanny*).—"You can move your budded Roses to their intended places now, in November, or in the spring. Be careful with the network of roots. Briar stocks should have roots. Cuttings will not succeed. Why did you not put your Briar stocks in the places intended for future occupation, and bud them there?—W. F. Radclyffe."

Leaves of Peaches and Nectarines (*C. G.*).—There is no difference in their form or other characters.

Peach Shoots Mildewed (*J. H., Amateur*).—The shoot sent is severely mildewed. It is induced by an insufficient supply of water at the root. It may be destroyed by dusting with flowers of sulphur. Any trees having shoots green and unripe, like the end of the one sent, ought to be pinched off to check growth and promote the ripening of the wood. Shifting the trees into larger pots would be desirable next month, not disturbing the roots, however; pot whilst the leaves are on, and you will from the descending sap secure a certain amount of root action this autumn. Give as much air as you can, and keep a dry atmosphere; for the wood, we should say, is far from ripe. If you have means of affording gentle fire heat, apply it, accompanying it with air day and night. Lessen the supply of water to the roots.

Black Hamburgh Grapes Shrinking (*Subscriber, E. P.*).—The Grape are being converted into raisins from the great heat we have had lately. We do not know what would have made them more juicy except supplying them more plentifully with water at the roots, and maintaining a moister atmosphere when they were ripening. After they were ripe, the house should have been kept cool and dry. Long-hanging Grapes do not contain so much juice as those newly ripe.

Vine Leaves (*J. T., Copenhagen Street*).—We cannot name Vines from their leaves; we must see the Grapes too.

Vines (*R. Impey*).—We think your proposed plan of planting would do very well; but why not have a Vine on each side until the more strong-growing one occupies the full width of both sides of the span?

Gooseberries (*P. J. H.*).—London, Leader, Thumper, and Hero of the Nile will produce the largest berries. Write to some friend at Manchester or Sheffield to purchase plants for you.

Transplanting Currant and Gooseberry Bushes (*A Regular Subscriber*).—The best time to transplant them is as soon as the leaves turn yellow and are falling. Moist weather is best.

Removing Figs (*G. C.*).—You may remove all the large green Figs this autumn, as they rarely survive the winter. Those not larger than a hazel nut should be retained. We presume your trees are against an open wall. If the trees are in pots, or in borders under glass, no part of the crop ought to be removed, as those now on the trees will be the first to ripen next May or June.

Stapelia speciosa Fruiting (*Love Apple*).—It is rather unusual for this plant to fruit. We have no doubt you might dispose of the Stephanotis seed. Write to one of the principal London seedsmen.

Cupressus torulosa Propagation (*H. L.*).—Take cuttings now of the well-ripened shoots of the current year's growth, from 3 to 6 inches long, and insert them rather thickly round the sides of 6-inch pots, draining these well, and filling them to within an inch of the rim with sandy loam two parts, and one part sandy peat, then to the rim with silver sand. Cut the shoots across below a joint, and insert them about 1 or 1½ inch in the soil or sand, and not more than 2 inches. Give them a gentle watering, place them in a cold frame or under a hand-glass in a cold house, and keep them close, shading in bright weather. Sprinkle them with water occasionally so as to keep the soil moist, but not very wet. They will strike root slowly but surely, and be well rooted in from six to twelve months, when they may be potted, hardened-off, and planted out. Do you find it succeed in the smoky atmosphere of the town you name?

Climber for a London House-front (*Charles Ellis*).—The Vine will suit your purpose, but the Virginian Creeper will grow quicker. But for the slowness of growth the White Jasmine flourishes delightfully in London. For a screen for the window as you propose, nothing will answer better than Ivy, and for the position, we would prefer the green to the variegated Ivy. The box should be in two distinct divisions, one for the Ivy roots, the other for the flowering plants.

Hot-water Tank (*M. B.*).—You will do what you propose with your tanks, if you have a return-pipe from them as well as a flow into them, and divide each tank down the middle, except a space at the farther end, and if you cover with iron or slate instead of wood. We have no faith in your succeeding with a wood covering. Provided the cover is all right, we would prefer sand to cocoa-nut fibre for setting the pots in.

Repotting Lilium auratum (*W. A. O.*).—We would not repot the bulbs potted last year if the drainage is good, but we should remove the surface soil as you propose, and give a top-dressing of rich compost between now and February, and again between then and June. If you pot them, do not disturb the roots, but, removing the soil and drainage, pot with the

ball entire. All bulbous plants are impatient of having their roots disturbed.

PELARGONIUM PROPAGATION IN LOOKER'S BOXES (*Ignorance*).—You should fill the pan with broken pots or cinders to within 9 inches of the glass, covering them with a thin layer of moss or the rougher parts of the compost, and then put in 3 inches of soil, consisting of two parts sandy loam, one part leaf soil, and one part of sand, mixed together, and cover with an inch thick of sand. You may then put in the cuttings about 1½ inch apart, give a gentle watering, and set the box out of doors in the full sun. You need not cover with the glass, as the cuttings will not be so liable to damp off without it, and they may remain out of doors until the weather becomes frosty at the end of October or beginning of November; then remove them to a light, airy window. Take off the dead leaves as they appear. We conclude your plants are the common bedding sorts. If you mean the tender kinds, the box should be placed in the window at once, and be covered with the glass, admitting a little air every morning for a short time, so as to give a change of air and prevent damp. No more water ought to be given than is sufficient to keep the soil moist. In a month the plants will do best without the glass. Pot them off next March, keeping them dry through the winter.

CYANOPHYLLUM MAGNIFICUM TREATMENT (*W. A.*).—The plant is an evergreen. The shrivelling and falling of the leaves is owing to a sudden change of temperature, probably from cold. During the winter no more water should be given than will keep the soil just moist and the foliage fresh; indeed, the plant ought to be kept dry, not causing the leaves to fall or the wood to shrivel. A temperature of 55° or 60° at night is suitable until February, when an increase of temperature should be given, and it may be gradually raised to 60° or 65° at night, 70° to 75° by day without sun, and 80° to 85° with sun and abundance of air. A moist atmosphere should be maintained by frequently sprinkling the paths, stages, walls, &c., but avoid wetting the foliage, and slight shade ought to be afforded from bright sun. The plant should have abundance of room, and light on all sides, so as to keep it from growing unequally. Pot it in March or April when growth commences, using a compost of four parts fibrous loam, two parts leaf mould, two parts sandy peat, one part old cow dung, one part charcoal, in lumps from the size of a pea to a hazel nut, and one part silver sand, the whole well mixed. Do not sift the compost, but tear it in pieces, and make rather fine, affording extra drainage.

SILENE PENDULA PLANTING (*Sunny*).—The plants may be put into the beds where they are to bloom when the bedding plants are removed; but if that cannot be done until the season is advanced, say November, the ground being then cold and wet planting should be deferred until March. In the latter case the plants should be planted out in reserve beds in open yet sheltered positions, and in sandy loam enriched with leaf mould. Take them up with good balls early in March, and plant them where they are to flower, watering at planting and in dry weather. The plants will flower in April or May, and continue in bloom up to June. Plants from seed sown now will flower early in summer. The seeds should be sown where the plants are to bloom. The Cinerarias are very handsome shrubs, suitable for walls with southern aspects. The best of them are C. azureus, C. floribundus, C. thyrsiflorus, and C. integerrimus. They have blue, lilac, and white flowers from June to the end of summer.

FERN CASE (*W. C.*).—The globe or glass should be close-fitting, with no space between the glass and stand to admit air. The glass would be better if it had three small holes in the top, so as to allow of the plants having a change of air. Three holes, each a quarter of an inch in diameter, would be sufficient for a glass exceeding 15 inches in diameter, or one half-inch hole in the centre would answer. The glass should then only be taken off for watering. If there is no hole, the glass may be taken off occasionally and wiped dry; on alternate days in summer, and twice a-week in winter will be sufficient. Do not overwater, but keep the soil moist, and set the case in a light but not very sunny window, turning the stand round occasionally.

FERN (*D. M.*).—We cannot decide without seeing a mature frond. There are many species in the genus Gymnogramma. Yours may be *G. sulphurea*.

NAMES OF FRUITS (*C. R. Scholfield*).—2, Yorkshire Greening; 3, Margalado Pippin; 5 and 7, Winter Greening; 8, Pursemouth; 9, Beurré Giffard. (*William Bishop*.—1, Syringrove Codlin; 2, Manks Codlin; 3, Hawthornden; 4, Yorkshire Greening; 5, Dunmore; 6, Bedfordshire Foundling. (*W. Ashwell*.—The Fig is the Brunswick, and the Apple the Alfriston. (*Al Fresco*).—The Grape you mention in your letter under the name of "Do la Palestine," is decidedly the same as the Syrian. White Nice, which is also sometimes, but very erroneously, called Syrian, is quite distinct, and it is possible that the Syrian you have hitherto known is White Nice. This, though producing very large bunches, never has them so large nor so long as the Syrian. All the new Grapes you have named in your letter are of first-rate quality. Mrs. Pince's and Madresfield Court are noble Grapes.

NAMES OF PLANTS (*J. S. T.*).—We have repeatedly said that we cannot name florists' varieties, nor any plants from leaves only, and you have now sent us twenty-eight leaves, all of florists' varieties! (*Sophie Webster*).—Erythrina crista-galli. (*J. R.*).—The larger flower is the Althæa frutex, Hibiscus syriacus; the smaller flower Leschenaultia formosa.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 21st.

DATE.	BAROMETER.		THERMOMETER.				WIND.	RAIN IN INCHES.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 15	29.573	29.474	66	52	61	57	S.W.	.02	Very fine; cloudy but fine; clear; strong wind.
Thurs. 16	29.785	29.466	68	57	59	58	W.	.06	Cloudy, brisk wind; fine, cloudy; densely overcast.
Fri.... 17	29.738	29.629	65	57	59	57	S.W.	.06	Showery; slight rain; showery; brisk wind.
Sat.... 18	29.528	29.373	69	53	61	58	S.W.	.82	Overcast; boisterous; heavy rain at night.
Sun... 19	29.473	29.357	63	43	60	58	W.	.00	Cloudy; very fine; brisk wind; clear and fine.
Mon.. 20	29.543	29.431	61	35	57	57	S.W.	.00	Overcast; fine, densely overcast; clear, starlight.
Tues.. 21	29.897	29.702	64	38	57	57	W.	.00	Very fine; cloudy; clear and very fine.
Mean..	29.648	29.490	65.14	47.86	59.14	57.43	...	0.96	

POULTRY, BEE, AND PIGEON CHRONICLE.

A POULTRY SHOW FOR LONDON.

I TRUST "AN AMATEUR" will meet with a liberal response to his proposal for a London poultry show. Why should not the largest city in the world be able to have what most towns in the north of England have year after year? I think it is because the meetings that have taken place have not been sufficiently central, and made known to the principal breeders by advertisement or otherwise. There is, I am convinced, in London the material for a respectable show. I have five poultry breeders among my own circle of friends who, I doubt not, would contribute to such an exhibition. What I would suggest is, that a committee be appointed to organise the proceedings, and the time and place of the show. My proposal is to ascertain if the new room at the Agricultural Hall could be hired for the same time as the Cattle Show. If this could be obtained, the poultry show would most likely pay expenses, as it would be a great temptation for our country cousins to see, on account of its being on the same spot as the chief attraction then in London. If a few known breeders will only come forward and amateurs lend a hand, there is not much fear but what we could have what we desire—namely, a creditable and profitable London poultry show. I will do my part by giving a guinea towards expenses, and a guinea towards a silver cup for the best pen in the show, and will also exhibit a pen of birds. Will a few more make a start by doing the same?—GEORGE HASTILOW, 53, *Walford Road, Stoke Newington, N.*

MIDDLETON POULTRY SHOW.

IT is to be regretted a Show so well supported, and at the same time one in which the competition was so good as that held at Middleton on the 16th inst., should not last more than a single day, and it is probable, were proper provision made, an increased revenue would result from an extension of the time of the Show. It is one of the most popular meetings of the day, and certainly with a little extra provision against weather it might be made one of the first shows of poultry. Black Reds were unquestionably as a whole the best of the *Game* classes, and some excellent specimens were on exhibition. Buffs, White, and Partridge-coloured *Cochins* were in strong force. *Hamburghs* were good, the Spangled varieties and the Black especially so. *Polands* were also capital, and the *Pigeons* were most meritorious. If any further arrangement for the protection of the poultry from bad weather could be devised, without making too great a call on the funds of the Society, it would be expedient to do so.

(*From a Correspondent.*)

THE Rabbits in most classes mustered strongly. Five classes were wisely given for distinct varieties, not of colour, as is the case at some shows, especially amongst the Lops, and then, perhaps, leaving one class only for the other beautiful varieties. In the five classes each animal could be compared with one of its own kind, which is the only mode to enable the Judges to award honestly the prizes. The entry fee was a tenth of the prize, being to my mind a fair amount. Large entry fees too often defeat their object, and prove a barrier to many specimens being sent.

Some good Lop-eared specimens were shown, and the beautiful doe belonging to Mr. Easten justly deserved the first position she obtained. The Angoras were good, well wooled, but rather small. Some of the Himalayans I think deserved a more honourable position, if size and blackness of the extremities are the test, as in my opinion they should be. The most perfect in the silver shade amongst the Silver-Greys,

I think, were returned to their owners minus certain cards of distinction, to which they were honestly entitled. In the "Any other variety" class I missed some fine specimens of the Patagonian and Belgian Hare Rabbit exhibited last year, and which enabled Middleton to say that at that Show the whole Rabbit family was fully represented. The pretty little Dutch specimens of Mr. Hudson I think deserved the position they took. Might I suggest to the Committee a little more attention to the creature comforts of the specimens, remembering that some of them had travelled a great distance to the Show, and had to return, I suppose, the same distance? The pens were roomy and well protected from the weather, which cannot be said of all shows.

GAME (Black-breasted and other Reds).—*Cockerel and Pullet.*—1 and Cup, C. Chaloner, Whitwell, Chesterfield. 2, J. Wood, Wigan. 3, H. Jowett, Idle, Leeds. *hc*, T. Statter, jun., Stand Hall, near Manchester; E. Mann, Walfield, Stand, Manchester. *Cockerel.*—1 and Cup, T. Dyson, Halifax. 2, T. Statter, jun. 3, J. H. Smith, Plainville, York. *hc*, T. Statter, jun.; Master W. Fletcher, Stonecliough, Manchester; Capt. Grove Price, Tayntoo. *c*, J. H. Wilson, St. Bees. *Cockerel or Pullet.*—1, C. Chaloner. 2, J. Halsall, Ince, Wigan. 3, T. Dyson. *c*, Master W. Fletcher.

GAME (Any other variety).—*Cockerel.*—1, C. Chaloner. 2, T. Dyson. *hc*, J. Halsall. *Pullets.*—1 and Cup, J. Wood, Wigan. 2, J. Holland, Manchester. 3, J. H. Wilson. 4, P. Norbury, Bowdon (Black Red). *hc*, S. Matthew, Stowmarket; P. Norbury (Piles); Master W. Fletcher; R. Payne, Brierfield, Burnley (Brown Reds); C. W. Brierley, Middleton.

GAME (Any breed).—*Adults.*—1, C. W. Brierley. 2, J. Wood. 3, C. Chaloner.

SPANISH.—*Cockerel and Pullets.*—1 and Cup, E. Jones, Clifton, Bristol. 2, W. & F. Pickard, Thorner, Leeds. 3, F. & C. Haworth, Newfield, Haslingden. *Cockerel.*—1, H. Beldon, Goitstock, Bingley. 2, T. & E. Comber, Myddleton Hall, Warrington. *Pullets.*—1, E. Jones. 2, T. & E. Comber.

DORKINGS.—*Cockerel and Pullets.*—1 and Cup, T. E. Kell, Wetherby. 2, T. Statter, jun. 3, Miss E. Whittington, Preston Hill, Henley-in-Arden. *c*, J. White, Warlaby, Northallerton. *Cockerel.*—1, J. Martin, Claines, Worcester. 2, E. Leech, Rochdale. *hc*, Rev. J. F. Newton, Kirby-in-Cleveland; S. H. Stott, Rochdale. *Pullets.*—1, N. G. Russel, Womaston Court, Kingston, Herefordshire. 2, J. Martin. *hc*, Rev. J. F. Newton; J. White; N. G. Russell; E. Leech; E. Shaw, Plas Wilmot, Oswestry.

BRAHMA POOTRA.—*Cockerel and Pullets.*—1, Cup, and 2, Rev. E. Alder, Etwall Vicarage, Derby. 3, T. A. Dean, Moreton-on-Lngg. *c*, H. Dowsett, Pleshey, Chelmsford, Essex; C. Leyland, Morris Brook, Warrington; E. Leech. *Cockerel.*—1 and 2, Rev. E. Alder. *c*, Dr. Holmes, Chesterfield. *Pullets.*—1 and 2, Rev. E. Alder. *hc*, T. A. Dean.

COCHIN-CHINA (Buff and Cinnamon).—*Cockerel and Pullets.*—1, C. Sidgwick, Ryddlesden Hall, Keighley. 2, W. A. Taylor, Manchester. 3, D. Young, Leamington. *Cockerel.*—1, C. Sidgwick. 2, W. A. Taylor, Manchester. *hc*, W. A. Taylor; Mrs. Allsopp, Hindlep Hall, Worcester. *c*, J. Holden, Moston, near Manchester. *Pullets.*—1, J. Sichel, Timperley. 2, W. A. Taylor. *hc*, C. Sidgwick; W. A. Burnell, Southwell, Notts; C. Banbery, Wolverhampton; Mrs. Allsopp; Bowman & Fearon, Whitehaven.

COCHIN-CHINA (Any other variety).—*Cockerel and Pullets.*—1 and Cup, C. Sidgwick. 2, A. Williamson, Queniborough, Leicester. 3, T. Stretch, Ormskirk. *hc*, W. A. Taylor. *Cockerel.*—1, C. Sidgwick. 2, A. Williamson. *c*, A. P. Steedsman, Broomegrove, Worcestershire. *Pullets.*—1, C. Sidgwick. 2, W. A. Taylor.

HAMBURGHS (Golden-pencilled).—*Cockerel and Pullets.*—1, H. Beldon. 2, W. R. Park, Abbotsmeadow, Melrose, N.B. 3, T. Wrigley, jun., Tonge Hall, Middleton. *c*, H. Pickles, jun., Earby. *Cockerel.*—1, R. R. Parker, Ipswich. 2, W. Bearpark, Ainderby. *hc*, T. Wrigley, sen., Tonge Hall. *Pullets.*—1, W. Speakman, Doddington Park, Nantwich, Cheshire. 2, F. H. Taylor, Middleton. *c*, J. Wrigley.

HAMBURGHS (Silver-pencilled).—*Cockerel and Pullets.*—1, H. Beldon. 2, H. Pickles, jun. 3, J. Lee, Middleton. *c*, F. & C. Haworth, Newfield. *Cockerel.*—1, Mrs Allsopp. 2, H. Pickles, jun. *Pullets.*—1, A. Woods, Seftoe, Liverpool. 2, Ashton & Booth, Broadbottom, Mottram.

HAMBURGHS (Golden-spangled).—*Cockerel and Pullets.*—1, J. Buckley, Taunton, Ashton-under-Lyne. 2, J. Ogden, Denton Lane, Chadderton. 3, E. Brierley, Haywood. *hc*, J. Lee, Middleton. *c*, N. Marlor, Denton, Manchester; E. Brierley. *Cockerel.*—1, W. Swire, Thwaites Bank, Keighley. 2, T. May, Wolverhampton. *Pullets.*—1, T. May. 2, J. Andrew, Waterhouses, Ashton. *c*, E. Brierley.

HAMBURGHS (Silver-spangled).—*Cockerel and Pullets.*—1, J. Fielding, Newchurch, Manchester. 2, W. Bairstow, Fearncliffe, Bingley. 3, H. Beldon. *Cockerel.*—1, J. Fielding. 2, W. A. Taylor. *hc*, Ashton & Booth. *Pullets.*—1, J. Fielding. 2, Ashton & Booth. *hc*, J. Partington, Little Heaton, Middleton; W. Bairstow, Fearncliff, Bingley.

HAMBURGHS (Black).—*Cockerel and Pullets.*—1 and Cup, C. Sidgwick. 2, Mason & Walker, Denton, Manchester. 3, Rev. W. Sergeantson, Acton Burnell. *c*, Walker & Wood, Slaithwaite. *Cockerel.*—1, Mason & Walker. 2, C. Sidgwick. *c*, J. Holt, Little Green, Middleton. *Pullets.*—1, Mason and Walker. 2, J. M. Kilvert, Ludlow. *hc*, A. E. Hanson, Castleton, Heywood; Mason & Walker; Hoyle & Patrick, Trough Syke, Bacup; H. Bagshaw, Uttoxeter.

FRENCH FOWLS.—*Cockerel and Pullets.*—1, Hon. H. W. Fitzwilliam, Wentworth Woodhouse (Crève-Cœurs). 2, R. B. Wood, Uttoxeter, Staffordshire. 3, W. O. Quibell, Newark. *hc*, W. O. Quibel; Mrs. Mc'Adam, Woodfield, Upper Banchory, Aberdeen (Houdans); Hon. H. W. Fitzwilliam (La Flèche). *c*, Mrs. Wilkin, Bootle Rectory, Cumberland (Crève-Cœur). *Cockerel.*—1, S. H. Stott, Rochdale. 2, W. O. Quibell. *Pullets.*—1, W. O. Quibell. 2, R. Wiley, Tettenhall. *hc*, C. Layland, Morris Brook, Warrington; R. B. Wood, Woodland Hall, Uttoxeter.

ANY OTHER VARIETY (Not included in the classes).—*Cockerel and Pullets.*—1, Cup, and 2, H. Beldon, Yorkshire. 3, W. Gamon, Hoole Cottage, Chester. *Cockerel.*—1, H. Beldon. 2, J. Partington, Bury Lane, Leigh. *Pullets.*—1, H. Beldon. 2, J. Partington. *hc*, W. Gamon.

GAME BANTAMS.—1 and Cup, Ingleton, Farnsfield, Notts. 2, W. F. Entwisle, Leeds. 3, W. Shamadia, Southwell, Notts. *hc*, J. Crosland, jun., Wakefield. *Chickens.*—1, Cup, and 2, J. Crosland, jun. 2, Harwood and Buckley, Accrington. *hc*, J. H. Ince, Wigan; T. Sharples, Rawtenstall; J. Eaton, Vine Cottage, Farnsfield, Notts; W. Hasltroell, Whitehaven.

BANTAMS (Any other variety).—1, W. A. Taylor. 2, S. & R. Ashton, Mottram. 3, S. H. Stott, Rochdale (Japanese).

SELLING CLASS.—1, M. Cavanagh, Shaw Clough, Rochdale. 2, A. Bamford, Peach Bank, Tonge, Middleton. 3, J. Horrocks, Tonge, Middleton. *hc*, D. Bamford, Harpurhey (Buff Cochins). *Chickens.*—1, A. Bamford. 2, W. A. Burnell, Winkburn Hall, Southwell, Notts. *hc*, W. A. Burnell; F. & C. Haworth.

DUCKLINGS (Aylesbury).—1 and 3, Mrs. Seamons, Hartwell, Aylesbury. 2, E. Leech.

DUCKLINGS (Rouen).—1 and Cup, E. Leech, Greave House, Rochdale. 2, W. Gamon. 3, J. Wright, Melton Mowbray. *hc*, J. F. Bott, Cammas Hall, Morrell Reading; T. Statter, jun; W. Gamon; L. Patton, Hillmore, Bishop's Hill, Taunton; S. H. Stott, Rochdale.

DUCKLINGS (Any other variety).—1 and 3, C. W. Brierley, Middleton 2, T. Statter, jun.

GOSLINGS.—1, S. H. Stott. 2, Rev. G. Hastler, Stillingfleet Vicarage, York. *hc*, T. Statter, jun; E. Leech; S. H. Stott.

TURKEYS.—1, E. Leech. 2, Mrs. A. Guy, Eaton, Grantham.

PIGEONS.

TUMBLERS (Almond).—1, *hc*, and *c*, R. Fulton, Deptford. 2, J. Fielding, jun., Rochdale.

TUMBLERS (Any other variety).—1 and 2, R. Fulton (Mottles). *hc*, R. Fulton; J. Fielding, jun.

BALDS OR BEARDS.—1, J. Fielding, jun. 2, T. Newell, Ashton-under-Lyne.

CARRIERS.—*Cock.*—1, E. Horner, Harewood, Leeds. 2, R. Fulton. *hc*, R. Fulton; J. Chadwick, Bolton. *c*, W. R. & H. O. Blenkinsop, Newcastle-on-Tyne. *Hen.*—1 and 2, R. Fulton. *hc*, E. Walker, Leicester.

POUTERS.—*Cock.*—1 and 2, R. Fulton. *hc*, E. Horner. *Hen.*—1, E. Horner. 2, R. Fulton. *hc*, R. Fulton; E. Horner. *c*, W. Gamon, Chester; W. B. Tegetmeier, Finchley.

BARBS.—1, Cup, and 2, Capt. Heaton, Eccles. *hc*, J. Fielding, jun. *c*, E. Horner.

TURBITS.—1, J. Fielding, jun. 2 and *hc*, R. Wilson, Thirsk. *c*, R. Fulton.

JACOBINS.—1, J. Hall, Blackley. 2, R. Fulton. *hc*, E. Horner.

FANTAILS.—1, E. Horner. 2, W. H. Tomlinson, Newark. *hc*, H. Yardley, Birmingham; T. H. Frean, Liverpool.

OWLS.—1 and *hc*, J. Fielding, jun. 2, F. Graham. *c*, Countess of Derby, Knowsley.

NUNS.—1, F. Graham. 2, H. Yardley.

DRAGOONS.—1 and 2, T. H. Frean. *hc*, R. Marshall, Lower Broughton; E. Horner. *c*, H. Yardley.

TRUMPETERS.—1, E. Horner. 2, W. Gamon.

ANY OTHER VARIETY.—1, W. B. Tegetmeier. 2, H. Yardley. *hc*, E. Horner; J. Watts, King's Heath, Birmingham. *c*, G. H. Withington, Kersal Hill, Manchester (Silver-coloured Roman Runts); H. Yardley.

SELLING CLASS—1, E. Walker, Leicester. 2, T. H. Frean (Magpies). *hc*, J. Fielding jun. *c*, W. MacLaren, Highfield, Pendlebury, Manchester; T. H. Frean; F. Key, Beverley; J. Watts.

RABBITS.—*Lop-eared.*—1, A. H. Easten, Hull. 2, J. T. Sykes, Rochdale. *hc*, G. Hopley, Manchester. *Angora.*—1, W. J. Butterworth, Stonyfield, Rochdale. 2, T. Wild, Heywood. *Himalayan.*—1, A. L. Rawstron, Haslingden. 2, W. J. Butterworth. *Silver-Grey.*—1, E. E. M. Royds, Rochdale. 2, S. G. Hudson, Hull. *Any other Variety.*—1 and 2, S. G. Hudson. *Selling Class.*—1, E. Higham, Middleton. 2, W. J. Butterworth.

The Judges were Messrs. Hindson and Teebay for Game, Waterfowl, &c.; Messrs. Hewitt and Tegetmeier for other classes of poultry; and Mr. Esquilant for Pigeons and Rabbits.

DERBY POULTRY SHOW.

IT has always been a somewhat remarkable feature of the Derby Poultry Shows, that those classes in which the competition was most severe at one year's show, had almost invariably a slight entry in the following year. It was again so this year, *Spanish* and Aylesbury *Ducks* being the classes in which there was least competition; in fact, both were quite indifferent in quality. The Grey *Dorkings*, Dark *Brahmas*, Rouen *Ducks*, *Geese*, and *Turkeys*, have rarely been equalled at any previous Derby Show, as at present restricted. Many of the *Hamburghs* were of first-rate character, and the White *Cochins* were, undoubtedly, one of the greatest features of the show tent. The *Pigeons* were of excellent quality, and were well represented. Few shows have proved themselves throughout so good. Occasional heavy showers were a great drawback to a large attendance. The Committee were most untiring, and the provision for the poultry, &c., was excellent.

DORKINGS (Coloured).—1 and 2, Mrs Arkwright, Etwall Hall, Derby. *hc*, Countess of Chesterfield.

DORKINGS (White).—, J. Faulkner, Bretby. 2, W. R. Dick, Ticknall.

SPANISH.—1, Withheld. 2, W. Cox, Brailsford.

GAME (Dark-breasted).—1, Rev. T. C. O'Grady, Hognaston Vicarage. 2, J. Bakewell, Draycott Mills. *hc*, W. Cox. *c*, C. Minors, Sudbury; J. Faulkner.

GAME (White or Pile).—1, C. Spencer, Thulston. 2, E. Canner, Stanley Grange.

HAMBURGHS.—*Golden-pencilled.*—1, G. J. Mitchell, Newton Mount. 2, J. Bakewell. *Golden-spangled.*—1, J. Bakewell. 2, C. Mellor, Atlow. *Silver-pencilled.*—1, J. Bakewell. 2, H. King, Melbourne. *Silver-spangled.*—1, J. Bakewell. 2, C. Pickering, Kirk Langley

COCHIN-CHINAS.—1 and 2, A. O. Worthington, Newton Park, Burton-on-Trent.

BRAHMAS (Light).—1 and 2, A. O. Worthington.

BRAHMAS (Dark).—1 and 2, Rev. E. Alder, Etwall, Derby. *hc*, Rev. E. Alder; A. F. Hurt, Alderwasley.

CROSS-BRED FOWLS.—1, J. Faulkner. 2, G. J. Mitchell.

DUCKS (Rouen).—1, J. Bakewell. 2 and *hc*, A. O. Worthington.

DUCKS (Aylesbury).—1, Withheld. 2, Miss S. Hurt, Chase Cliffe.

GEESE.—1, W. Cox. 2, J. Faulkner. *hc*, A. O. Worthington.

TURKEYS.—1, A. O. Worthington. 2, A. M. Mundy, Shipley Hall. *hc*, J. G. Mitchell.

SPECIAL PRIZE.—1, Mrs. Arkwright (Dorkings) 2, J. Bakewell (Geese).

EXTRA.—*hc*, Lord Manchline Donington Park (Bantam and pair of Greys).

PIGEONS.—*Rock or Dovecote.*—1, J. Faulkner. 2, F. Sale, Derby. *Antwerp or Belgians.*—1, Mrs. Arkwright. 2, F. Sale. *hc*, J. Langley,

Mickleover. *Tumblers.*—1 and 2, F. Salo. *Fantails.*—1, F. Salo. 2, W. R. Dick, Ticknall. *hc*, A. O. Worthington; F. Salo. *Any other Distinct Variety.*—1, 2, and *c*, F. Salo (Trumpeters, Magpies, and English Owls). *hc*, J. Harpur, Derby (Dragoons); O. Haywood, Derby (Barbs).

Mr. Drewry, of Burton; Mr. Hewitt, of Birmingham; and Mr. Lowe, of Comberford, were the Judges.

WHITBY CANARY SHOW.

This Exhibition of British and foreign cage and song birds was held in connection with the thirtieth annual Exhibition of the Floral and Horticultural Society in the Congress Hall, on Tuesday, the 14th inst.

I am pleased to be able to give a detailed report of it, for, like those gentlemen who have for the past week or two been upholding the dignity of their hobby—the fancy Rabbit, I, too, am jealous, very jealous, of my pet fancy—the Canary, and I don't like to see him consigned to the fag end of a report. I sympathise very sincerely with the writers to whom I refer, but I would just ask them whether the neglect they complain of is not to some extent their own fault? Do they do all in their power to raise their fancy to its proper level? and are the beauties of the fancy Rabbit, as developed by them, brought sufficiently before the million through the powerful agency of the press? I am sure the pages of "our Journal" are open to the lovers of all domestic pets. We have even had an enthusiastic writer on Ferrets! Why not, then, write up your favourites? I, for one, would much like to see a series of practical papers on the modern fancy Rabbit, its varieties, &c., with details as to points and management. I have always had a sneaking kindness for Rabbits, and who has not? My boys do a large stroke of business in the line, the balance always being on the wrong side. Rest assured of this, that if you love your pets and work for them, you will give untold pleasure to many a reader, and the work will be a labour of love, repaying itself a thousandfold. Make up your minds that Rabbits shall not be consigned to the last half dozen lines of a report, and you will soon find them at the other end.

But, "*revenons à nos moutons.*" I was obliged to make an early start to reach Whitby in good time, and 5.10 A.M. saw me *en route*. Nearly all my fellow-travellers in the early stage of the journey were butchers or drovers, redolent of suet, bound for Newcastle cattle market. The conversation, however, took quite a literary turn, having reference chiefly to Pretender and Harriet Beecher Stowe. While changing at Ferry Hill for Stockton, I witnessed a very touching incident, now frequently to be seen in this district. A small group of men and women, waiting the arrival of the up train, were hanging on one another's necks, giving utterance to such expressions of grief as one could hardly listen to without emotion. The good-bye scene was most affecting; I cannot describe it. A bystander gave me the clue to the whole in one word—America. It was a small family leaving, most probably, their native village to seek a home across the Atlantic. God speed them in their journey to the Far West!

Stockton was hardly astir when we ran into the station, at least the refreshment-room was scarcely awake, the young lady in charge telling me I could have no coffee, as "t'kettle wasn't boiling," and as "t'kettle" refused to boil in anything like a reasonable time, I went my way minus my coffee. From Stockton to Whitby the scenery is very romantic, the line following the windings of the Esk through the tortuous passes of the Cleveland Hills, crossing and recrossing the river a score of times, bounded on either side now by overhanging woods, and now by wide moors, covered as far as the eye could reach with blooming heather. Far up on a hillside a column of smoke indicated the spot where, I was told, a jet mine had taken fire. The stations are some of them beautifully situated, but some in apparently the most out-of-the-way places, within sight of no human habitation. I was informed at all of them that "Bryant & May's matches would light only on the box;" and at one, where there seemed to be only a solitary station-master and porter rolled into one, some enterprising tailor announced that he was prepared to make trousers at 16*s.* 6*d.* a-pair. The match business seemed to thrive all through the district, but the tailor gave up in despair further on, where there seemed no legs to clothe, even at the ruinous figure of 8*s.* 3*d.* per leg, the only inhabitants being a few black-faced sheep, who popped their heads above the heather to stare at us as we rushed past.

Arrived at Whitby, I was soon among the birds with my co-adjutor, Mr. Allenby, of Durham. They were arranged on either side of the Hall, the horticultural department occupying the centre, producing a very charming effect. The Derby and Northampton schools, as will be seen by the prize list, were strongly represented by Mr. J. Bexson and Messrs. Moore and Wynn, who exhibited some very fine specimens. In condition, the primary point, they could not be excelled, taking into consideration the early stage of the season. Both are evidently in "form" this season, and "will be heard of to advantage" at future shows. The prize birds in Clear Yellows and Clear Buffs stood far out above their fellows, though the specimens "mentioned" were all creditable birds. In Class 4, Buff Norwich, Moore & Wynn were first and second with two lovely birds, which will take some beating wherever they go. Class 5, Yellow Norwich, a very interesting class, since it comprises the "*crême de la crême*" of quality, and one which should be in every schedule offering prizes for Norwich birds, contained some glorious specimens. No. 52, first prize, J. Bexson, was a beauty, while 57, second prize, Moore & Wynn, a bird of a directly opposite character, was gorgeous in its colour. The former was almost absolutely clean, the latter very heavily marked—fitting representatives of a class hitherto excluded from our shows. Class 6 was also well represented. The Belgians were inferior, and Classes 9 and 10, with the exception of the winning birds, were of no character whatever. Mr. Bexson was first in Cinnamons, Yellow and Buff, beating the veterans Moore & Wynn, though the second prize went to Northampton through Mr. Irons. Lizards were inferior, and in Class 14, Silver-spangled, a Mr. J. Stevens, of Middlesbrough, exhibited a most palpably stained specimen. I wish all societies would banish such offenders, and so stamp out the disease. Refuse their entries, disown them, turn them out of the society of gentlemen to mate with their own kind, and do not even grant a ticket of leave for many a year. In Class 16, "Any other variety," the first prize went to Mr. Calvert, of York, for the best Crested Norwich bird I ever saw, excepting that shown by Mr. Young at the Crystal Palace last February, and in some respects he was superior even to that wonder. No. 157, second prize, Mr. G. Gayton, Northampton, was a splendid Crested bird, and 153, third prize, fell to Moore and Wynn for a very neatly marked Cinnamon. No. 154, Mr. E. Mills, Sunderland, was very neat, handsomely crested, of good quality, but rather small. Among the Mules there were some grand specimens exhibited by Mr. J. Young and Mr. George Shiel, of Sunderland, who divided the honours between them; Mr. Hawman, of Middlesbrough, being very highly commended in the Buff-variegated class for a bird of extraordinary merit.

In the Variegated Yellow class the contest was very close, though lying between two birds of widely different character, the one a finely six-marked bird, but backward in condition, the other heavily marked with marvellous exactness, and in the bloom of perfect condition, and it was not till a jury was empanelled that the first prize was awarded to the lighter-marked bird—a judgment from which I dissent, since I hold perfection of condition to be a primary point, not to the exclusion of all others certainly; but I maintain that a half or three-parts moulted bird, and not very clean either, must, indeed, be a veritable wonder to displace a high-class bird in faultless trim. It is not for a judge to determine what any bird *might be made* in a month, but to say what he *is* on the day of show when measured by the standard of the schedule, according to the conditions of which the bird is shown—viz., "for beauty of plumage and high condition." I am happy to say that the respective owners of the birds endorsed my judgment.

Excepting a very fine dark Mule, first prize, in Class 20, with a wonderful "flourish," there was not much else worth notice, except the Parrots, the first prize for which was won by Mrs. Wilkinson, the amiable lady of the indefatigable Honorary Secretary. Of the flower show I can say but little, it is not so much in my line; but I was assured by competent judges that it was the best ever held in Whitby. Of the arrangements it is impossible to speak too highly. Everything was conducted as it should be; in fact, it is a model Show in this respect. The Secretary is the right man in the right place, and with a somewhat amended schedule he will make the Whitby Show one of the best in England.—W. A. Blakston.

The following is the prize list:—

Norwich (Yellow).—1 and 2, Moore & Wynn, Northampton. *vhc*, R. Simpson, Whitby. *hc*, E. Mills, Sunderland. *c*, J. Bexson, Derby.

Norwich (Buff).—1 and 2, J. Bexson. *vhc* and *hc*, Moore & Wynn.

Norwich (Yellow, evenly marked).—1, J. Bexson. 2, G. Gayton. *vhc*, Moore & Wynn. *hc*, T. Irons.

NORWICH (Buff, evenly marked).—1 and 2, Moore & Wynn. *vhc*, T. Irons. *hc*, G. Shiel.

NORWICH (Yellow, unevenly marked or ticked).—1 and *c*, J. Bexson. 2, Moore & Wynn. *vhc*, Pennock & Blackstone. *hc*, R. Hawman, Middlesbrough.

NORWICH (Buff, unevenly marked or ticked).—1, J. Bexson. 2, G. Gayton. *vhc*, T. Irons; R. Simpson. *hc*, Pennock & Blackstone. *c*, Moore & Wynne.

BELGIAN (Yellow).—1, J. Bexson. 2, Allan & Baines, York.

BELGIAN (Buff).—1, W. Parritt, Rnswarp. 2, F. Fritschler.

YORKSHIRE (Yellow).—1, R. Hawman. 2, G. Garbutt. *vhc*, W. Handel, Whitby. *hc*, Mrs. J. Wilkinson.

YORKSHIRE (Buff).—1 and *hc*, J. Gray. 2, W. Winter.

CINNAMON (Yellow).—1, J. Bexson. 2, T. Irons. *vhc*, G. Gayton.

CINNAMON (Buff).—1, J. Bexson. 2, T. Irons. *vhc*, Moore & Wynn. *hc*, R. Hawman.

LIZARD (Golden-spangled).—1, Withheld. 2, E. Barker.

LIZARD (Silver-spangled).—1, R. Hawman. 2, E. Barker.

CANARY (Green).—1, T. Irons. 2, Allan & Baines.

ANY OTHER VARIETY.—1, J. Calvert, York. 2, G. Gayton. 3, Moore and Wynn. *vhc*, G. Shiel; E. Mills. *hc*, J. Young (Crested); T. Armstrong.

SIX YOUNG BIRDS IN ONE CAGE.—1, J. Calvert. 2, R. Simpson. *hc*, M. Thompson, Whitby. *c*, T. Armstrong.

GOLDFINCH MULE (Yellow marked).—1, J. Yonng. 2, G. Shiel.

GOLDFINCH MULE (Buff marked).—1, J. Yonng. 2 and Extra 2, G. Shiel. *vhc*, R. Hawman. *hc*, Allan & Baines.

GOLDFINCH MULE (Dark).—1, Allan & Baines. 2, Moore & Wynn.

BULLFINCH.—1, M. Millington, York. 2, J. Howe.

LINNET.—1, J. Calvert. 2 and *vhc*, T. Philpot. *hc*, McLachlin & Brown.

PARROT.—1, Mrs. J. Wilkinson. 2, J. Calvert.

PARAKEET.—1, G. T. Knaggs, Esplanade.

DISTRICT PRIZES.

CANARY.—*Clear.*—1, Pennock & Blackstone. 2, E. Barker. *Marked.*—1, W. Raw. 2, E. Barker. *vhc*, W. Elders. *hc*, W. Stevens. *c*, J. Readman. *Crested.*—1, Pennock & Blackstone. 2, R. Simpson. *vhc*, W. Elders. *hc*, J. Hart. *Half-bred Belgian.*—1, J. Waters, Whitby. 2, T. Masterman, Longsteps. *Mule.*—1, R. Simpson. 2, R. Corner, Whitby.

RABBITS AND THEIR JUDGES.

THE letter by "HIMALAYAN," under the above heading, in your number of September 2nd, is admirable in every respect, and I venture to say that hundreds of your readers in the Rabbit fancy have thanked him in their hearts for so ably taking up the Rabbit-right question. Indeed, no one, whether personally interested in the fancy or not, will deny that the Rabbit section in a show is more frequently than not judged by men who are conscientious, and thoroughly up in the other departments, but who will frankly admit that they are placed in a false position when called upon to deal with Rabbits. They come to this enforced part of their work tired out with their previous labours; their heart is not in it; they have either no confidence in themselves, or sadly too much; they poke a Lop-eared Rabbit with their stick as they would a pig or a Game bird, to see its properties, and if they have ever heard of such a thing as measuring, they have to ask somebody whether it is the ear or the tail that Rabbit folks think such a deal about. If it is replied that it would not pay to have a special judge for Rabbits, I ask, How often has it been tried? and I echo the words of "HIMALAYAN," "the expense would soon be more than compensated by the increased number of entries which would be obtained when it was known that a competent judge was to award the prizes."

To prove the correctness of this view, I would adduce the Hull Show as an illustration. They very wisely, as I thought, printed the Judges' names in conspicuous type on the schedule, and the well-known name of Mr. Millington, of York, being down for the Rabbit section, it brought no less than eighty-five Rabbits from all parts of England, and while there was a loss in nearly every department, this one more than paid. I venture the opinion that there would not have been half so many if there had been the usual uncertainty about the judge.

Again, I concur with "HIMALAYAN" in thinking "that competent men might be found within twenty miles of each large show." Here let me give an illustration. Within seven miles of the large town where I live there are two very fashionably attended poultry and flower shows every year, where Rabbits are exhibited, and yet, would it be believed? the Committees year after year ask some poultry man to go over and judge all the live stock, when there are at least half a dozen good and reliable judges of Rabbits within seven miles, who would go for their mere railway fare, considering the compliment a sufficient reward for their work. We could easily send them five-and-twenty entries, and most certainly should do so, from the place being so handy for us, but the judgment is generally so ludicrous, that those who have the very best Rabbits will not hazard the reputation of their pets by showing at all. And then we hear that it is not worth their while being at the expense of an extra man! This is a type of many larger shows, and I know some gentlemen who have first-class specimens, who simply keep them at home for their own amusement, because they will not run the double risk of bad judgment and bad treatment.

This word "risk" brings me to another point, on which I feel deeply as a lover of Rabbits, and I would ask to be allowed to give another illustration, as showing that they are treated, as "HIMALAYAN" says, "in a sort of anything-will-do-for-them manner." Myself and a few friends ran over by excursion train the other day to the Whitby Show, arriving about eleven. The sun was intensely powerful, but at times during the day it looked likely to rain, and some predicted a thundershower. We made for a part of the field where we saw some live stock under a covering of calico, but finding that they were all two-legged, we asked with great interest, Where are the Rabbits? To our amazement we were directed to a number of perfectly open wire pens, raised upon some planks, without the least pretence of any protection from heat, cold, or rain; and yet who does not know that Rabbits catch certain diseases from exposure to sun, and that they have to be kept with equal care from cold or wet? With a humane intent we respectfully asked an official how this was, as the schedule had most distinctly stated, "The Rabbits will be shown under cover." He very respectfully answered that he was guilty in one sense, but not in another, for he could assure us he himself had bought up every yard of calico in Whitby, but that, unfortunately, it had only been sufficient to cover the poultry, and that he could not obtain more in the town either for love or money! Of course we took this for a joke, and began to laugh; but in the most gentlemanly, and evidently sincere manner, he reiterated the statement, which was confirmed by the Secretary, who was standing by; both very sorry, of course. I could only exclaim, "Poor Rabbits, always last thought of!" Yet I know for a fact, that one of these exposed Rabbits was claimed at ten guineas after winning the silver cup at a recent show, and that the owner had some difficulty in persuading the buyer not to enforce his claim—but, to be sure, it was *only* a Rabbit after all! Had it been a Duck or a Goose with a fine name, there would have been the calico to protect it from sunstroke or the watery element. Well, the Judges came round, and some dozen of us were only 2 yards behind them; but our suspense was short, for they positively got through (I don't say judged) twenty-one specimens in a trifle short of two minutes! The last half minute was taken up in deciding between two Lop-eared Rabbits close together, that were much alike in size, colour, and some other points. Common sense and justice would have cried out, "Measure them if you are puzzled;" but though all their work was then done it was not worth while, and they walked off—having decided certainly, but most certainly without knowing, and as clearly not caring, which of the two best Rabbits in the Show was the better of the two. Now, I venture to affirm, without fear of contradiction from Rabbit-fanciers, that the most practised eye could not determine to half an inch the length of ear, nor the width to an inch, without measurement or opening the ear out, and yet not one Rabbit was touched except by those gentlemen's sticks.

The delighted "WINNER OF" (*two*) "SILVER-GREY PRIZES AT ROCHDALE," wonders in your last issue what we Lop-ear fanciers can find to grumble about. I have given him a nut; let him crack it.

I have only one more fault to find at present, and that is, that the pairs were put into one pen without the division that is generally made; and as we all know what these little creatures are, I call it an outrage on common decency, to say nothing of the injustice to exhibitors, who may have their pair unexpectedly spoiled by a litter before the next show. There was the same mistake at Wakefield a few days before, where two pairs were chasing round and round all the day, and I observed many a gentleman discreetly walk his lady off from an embarrassing position. I must, however, in justice say that everything else at Wakefield was admirably arranged and managed, and as to the judging, it was refreshing to many of us, who could clearly see what was going on, to observe that the Rabbits occupied their full share of attention, every Lop-eared one being taken out and measured, and evidently receiving a most careful and conscientious consideration of its claims. This is the right way to stop grumbling.—ONE OF MANY WITNESSES.

SOAP A REMEDY FOR A BEE'S STING.

SEEING from the papers recently, a sad and fatal result from an attack of bees, and for the benefit of those who may be so

unfortunate as to be similarly stung, allow me to suggest a most simple and easy remedy within reach of everyone, and in every household. Common soap, worked up into a lather on the place stung, gives immediate relief. I think if such a remedy had been applied at once in the recent fatal case, no very serious consequences would have ensued. I have tried it often, and never found it fail; it is instantaneous, easy, and clean. I sometimes when among my bees carry a small bit of soap dried in my waistcoat pocket, and if stung I just wet and rub the place; it is always sufficient.—D. H.

BUCKET HIVES.

In my little book on "Profitable Bee-keeping," recently published by the Society for the Promotion of Christian Knowledge, I recommended the use of bucket hives for cottagers. I have had one in my garden during the last twelvemonth whose dimensions are as follow:—Height, 8½ inches; diameter at the upper and broader end, 15 inches; diameter at the base where it rests on the floorboard, 12 inches, all inside measure. The hive top is a flat round board an inch thick, which projects a little beyond the rim of the hive, and merely rests upon it without any fixing.

Last August I received from Mr. Woodbury a good hybrid Italian queen, which I established in this hive at the head of a colony of common bees whose queen I had previously abstracted, the bees themselves having been driven out of a hive which stood in the same place. A few pieces of old honeycomb affixed to bars, and tied with bits of string to the under side of the moveable top of the new bucket hive were almost all the help they had. I may have given them as much as 5 lbs. of sugar syrup, not more, during the autumn and early spring. I should have given them more, but being weak in population they did not feed kindly. They managed, however, to survive the winter in good health, and began to show signs of coming prosperity as June wore on. How they contrived to live through May I cannot imagine, but by the middle of July they were glad of a small super, from which I took 6 lbs. of first-rate honeycomb a little later. This led me to hope that after all I should be able to report well on the whole of my bucket hive when the time came for the partial plunder of the hive itself, which I had all along meditated.

This time arrived last Thursday, when assisted by an enthusiastic apiarian neighbour, whom I wished to convert to my new method of cottage bee-keeping, I resolved to test the practical value of my bucket hive. First, we drove the bees into a temporary hive and put them on their accustomed stand, ascertaining beyond doubt that the queen was with them. Then with the aid of a few sulphur matches we stupefied the remaining bees in the hive, most of whom recovered afterwards and rejoined their companions. Next, after snipping the bits of twine which had secured the bars (with combs attached), to the under side of the top board, I passed a spatula beneath it all round and separated the combs below from their attachments to it. We then cut or scooped out 10-lbs. weight of the best part of the honeycomb, leaving enough for their winter supply, and not damaging the brood comb below. Only one of the ten or eleven combs became detached from the sides and was removed. All the rest were securely fastened to the sides and to the cross-stick below, and remained unchanged in position. The top board was then replaced, and after suffering the injured honeycombs within to drip into a pan, over which during the operation the hive had been placed, it was put back on its stand and the temporary hive of refuge set over it. The holes being open, the bees quickly descended, and all was soon as quiet as it had been before.

Had the honey season been more favourable, and my stock originally stronger, I doubt not I should have obtained a much larger quantity of honey; but most cottagers would be well content with a harvest of 16lbs., without destroying the hive. If necessary, I shall feed this hive in October and March next, which will, of course, somewhat diminish the profit, but a few pounds of sugar at 4*d.* per lb. are a cheap substitute for honey at 1*s.* per lb.

The following extract from "Profitable Bee-keeping," will explain the special uses of the bucket hive:—

"One of the greatest objections to the common hive is the impossibility of taking away the honey without destroying a quantity of comb, which would be of value to the bees another year—much more valuable than the wax to be got from them would be to the bee-master. Not only so; there is often an immense quantity of brood destroyed, which, if preserved, would add greatly to the prosperity of the hive another year, as these young bees will live till spring. Now, this hive with a flat and moveable top will remedy both these evils; for, after getting rid of the old bees by driving or fumigating, you may remove the top board by passing a knife with a thin blade completely under it all round, so as to separate the combs from it. Then the comb which contains the honey can be easily cut out without injuring the lower part of the combs at all, especially if there are sticks in the middle of the hive to support them. Everyone knows that the best honey is always stored by the bees in the upper part of the hive, while the queen lays her eggs in the middle and lower part of the combs. A good bee-keeper, therefore, will carefully preserve these combs and the young bees in them; for these young bees will live till spring and ought always to be saved."—B. & W.

OUR LETTER BOX.

Fowls in Confined Space (*St. Edmunds*).—We recommend you to keep Houdans, Brahmas, or Crève-Cœurs. Brahmas are very hardy, and are certainly excellent layers. They have the advantage of being good sitters and mothers if they are required in that capacity. You may well keep a cock and eight or ten pullets in such a space as you describe. We cannot recommend vendors.

Poultry Company—Defective Black Hamburgh (*M. C. C.*).—The National Poultry Company closed its establishment long since, and having died a natural death it had no successor. We never give great hopes of breeding good birds from faulty parents, and do not, therefore, approve of your scheme. The semi-white face of the Black Hamburgh cock speaks of his Spanish origin, and to mate him with a Minorca hen would be to increase the Spanish.

Incubator (*Calpe*).—We cannot recommend any. From various causes they have ceased to be patronised.

Feeding Poultry (*Amateur Poultry-keeper*).—You will lose all your chickens through bad feeding. Stock meat is a capital adjunct, but it does not yield nourishment enough to feed on; tailing wheat is bad food, and rice is worse. Your meal should be mixed only stiff enough to retain its form. Have your fowls any grass run? Discontinue the lime. We believe it is injurious if strewed on the ground, but very beneficial if used as a wash for the walls. If they have no grass, give them lettuce or green food. Chickens under two months old require chicken treatment and food—bread boiled in milk, a little chopped egg, chopped meat and bread, and beer. They should be fed away from the old birds. The latter should have barleymeal or ground oats in the morning, whole corn or Indian corn at midday, meal in the evening. Discontinue tailing wheat and rice. Give some stock meat at times for a change. (*M. S. S.*).—We disapprove of your feeding. Fowls cannot be healthy with hard crops, and their crops cannot be otherwise than hard with your feeding. Having a run of a stack-yard and field, they need only have barleymeal in the morning, barley or Indian corn at midday, and barleymeal in the evening. Buckwheat, potatoes, and Indian meal will produce the symptoms you mention. They are all bad food. Treat the chickens as we have described in the preceding answer. They must be well cared for when small, if they are not, they die as soon as they begin to make growth and feather. If you feed chickens and adults together, the latter monopolise the food and starve the former.

Game-fowl Points (*A Subscriber*).—No Game fowl should have a rose comb; such an appendage would disqualify the handsomest bird in the world. Sharp snake-like head and face, hard feather, scanty plumage, body broad between the shoulders, and tapering to the tail, perfectly straight breast-bone, are some of the principal characteristics of a good Game fowl.

Dark Brahmas' Feathers White-streaked (*J. W.*).—Is the white streak on the shaft of the feather? If it is, examine the parents closely and ascertain from which it comes, and discontinue breeding from it. It will be easy next season to put a darker cock with the hens, but we are hardly disposed to attach so much importance to the stripe as you do. It may arise from inter-breeding, but under every circumstance we should advise fresh and carefully-selected blood. We have seen where breeding-in has been followed, the pencilling intermixed with distinct white spots.

Pigeons Laying Four Eggs.—A correspondent, referring to a paragraph in last week's Journal, says that a friend of his keeps "Ponting Horsemen" Pigeons, and the hens almost invariably lay four eggs, and not at all unfrequently bring up four young ones.

Grey Colour of Honey (*S. M. I.*).—We can give no reason for the grey colour of your honey, except that we imagine it must arise from some peculiarity in the season, or in the pasture from which it has been collected.

Dogs' Meat (*J. M. B.*).—We have not the advantage of knowing a single dealer in this feed.

Dried Artichoke Bottoms (*Ignara*).—Pluck your artichokes from the stalks just before they come to their full growth, which draws out all the strings from the bottoms; boil them till you can easily take off the leaves; then lay the bottoms on this, and set them in a cool oven. Repeat this until they are dry, which you may know by holding them up against the light, when, if they are dry enough, they will appear transparent. Put them into paper bags, hang them up in a dry place, and they will keep good the greater part, if not the whole of the year.

POULTRY MARKET.—September 22.

It would be easy to dismiss our notice of the market by saying there is a small supply and a very dull trade. Partridges are plentiful, but there is a large proportion of old birds. There have been fewer Grouse than usual at this time of year. It is, perhaps, to be accounted for by the boisterous weather.

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPT. 30—OCT. 6, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
							m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
30	Th		65.1	43.4	54.2	23	59 af 5	41 af 5	morn.	12 af 3	24	10 6	273
1	F	Cambridge Michaelmas Terms begins.	63.5	44.8	54.1	21	1 6	40 5	8 af 0	54 3	25	10 25	274
2	S		64.5	44.1	54.3	19	3 6	38 5	23 1	29 4	26	10 44	275
3	Sun	19 Sunday after Trinity.	63.8	41.6	52.7	16	5 6	35 5	43 2	59 4	27	11 3	276
4	M		63.8	42.5	53.2	20	7 6	32 5	7 4	28 5	28	11 21	277
5	Tu	Royal Horticultural Society, Frnit, Floral,	60.4	40.2	50.3	21	9 6	29 5	31 5	53 5	●	11 38	278
6	W	[and General Meeting.	61.8	43.2	52.5	22	10 6	27 5	56 6	20 6	1	11 56	279

From observations taken near London during the last forty-two years, the average day temperature of the week is 63.3°; and its night temperature 42.8°. The greatest heat was 80°, on the 5th, 1834; and the lowest cold 25°, on the 5th, 1865. The greatest fall of rain was 1.06 inch.

SEEDS versus CUTTINGS.

RAISING CENTAUREAS, VERBENAS, AND OTHER PLANTS.

AT a time when public attention is directed to the adulteration of seeds, it is not inappropriate to notice the advantage of sowing certain seeds, though not generally recognised, owing to supposed difficulties in obtaining them, and, which is of more consequence, a prejudice against sowing when other modes of propagation are available. This state of opinion by degrees works its own cure, and sooner or later the public learn to know and adopt the most suitable mode of increase, and the use of seeds instead of cuttings is the order of the day.

There are, nevertheless, certain plants thought not capable of yielding seed in sufficient quantity to meet the requirements of the public, and amongst them is one to which I would confidently call attention. Its culture has been long before the gardening community, and its propagation has been often reported as being difficult; or at all events there often seemed an impossibility to multiply it to the required extent, although others assert that may be done with as much ease as in the case of a Nettle; I allude to Centaurea candidissima.

This is a plant now indispensable in the flower garden, but somehow it does not take up well in autumn, and if the season has been unfavourable, it does not always furnish so many good cuttings as desirable, the consequence being that at the proper planting-out time the stock is often found smaller than it was the year before. This ought not to be, but it has frequently been the case. The plant strikes freely enough from cuttings inserted in spring, but plants to obtain them from are at that time often few, so that any mode of increasing the supply then cannot be otherwise than a boon; and in this case seed offers the readiest mode of doing so. Some persons, however, will ask, How is seed to be had? for although the peculiar formation of the seed renders it unlikely to be adulterated, it does not appear to have been yet obtained in sufficient quantity to meet the requirements of all, but it can easily enough be made to do so.

The plant is all but hardy; indeed, it may be said to be hardy in all dry situations, for we have plants at Linton Park which have been three winters in the same situation, and one of these winters was severe enough. Old plants are the only ones to obtain seed from in any considerable quantity. Let those anxious to obtain a good stock of healthy, thrifty plants of this Centaurea put in a few old plants in some dry sheltered place, collect the seed pods as they ripen, and they will find themselves possessed of more seed at the end of the season than they expected. This, sown in heat early in spring, in the same way as Lobelia seed, will produce abundance of plants, healthy and uniform in size and appearance. By judiciously pricking out in boxes or pans, the young plants will be ready to turn out in May along with other subjects, and although for a short time, while the plants are under glass and in a young state, the foliage may have a greenish grey tint, it is no sooner inured to the open air than it acquires all the whiteness of old plants grown from cuttings. I have some hundreds, obtained from seed this season, which cannot be excelled by plants raised in any other way, and it will be seen at once that all the trouble of wintering is avoided.

Centaurea gymnocarpa is likewise best obtained from seed, or rather, I should say, the best plants are so raised; for although this species furnishes cuttings plentifully enough, and these are easily struck and wintered, at planting-out time a considerable portion are often fully half run to seed, and refuse to form a single leaf. This unpleasant state of things cannot always be remedied, and ugly gaps are the consequences. Now, seedlings always grow well for one year at least, scarcely one flowering, or if they do it is merely a solitary stem or two, in no way disfiguring the plant, and easily removed. As seed is more plentifully ripened by this species than by Centaurea candidissima, I have no hesitation in recommending sowing. An accident first drew my attention to the fact. Some old plants on a mixed border had been allowed to ripen seed, which fell and produced plants; these were preserved, and there being a deficiency of cuttings, they were planted out, and their uniform growth and not running to seed have rendered me more careful of seedlings ever since.

While on the subject of plants which are best raised from seed, I must not omit Verbena venosa, which, with the exception of V. pulchella, I grow more abundantly than any other. This species deserves more attention than it often receives, for in addition to being quite hardy, it is also one of the prettiest purples we have. One or two large beds near others of Verbena Purple King afforded a good opportunity of judging of the respective merits of the two when viewed in a mass from a distance of 20 or more yards off, and everyone gave the palm to Verbena venosa. The brighter and richer tint of its blooms, taken in a body, far exceeded Purple King. It is most easily and securely obtained from seed, which if sown in heat in February, and treated the same as that of the Lobelia, &c., will produce plants flowering the same season. It may not be impossible to strike this Verbena from cuttings in autumn, but certainly not more than one cutting in a thousand will succeed if treated in the same manner as those of Verbenas, and as seed is obtained plentifully enough, it is better to raise plants in that way. To the amateur, however, it may be mentioned that the seed requires a long time to germinate, seldom coming up in less than a month.

The number of plants which are better grown from seed than from cuttings is far from being sufficiently acknowledged. We all admit the superiority of a Pinus or other tree or shrub so raised over one obtained from a cutting, but as regards smaller plants opinion is divided. Petunias, for instance, although making more sturdy plants from seed, and exempt from the fault of dying-off now and then during the growing season, are not always to be depended on for colour. There is one other plant which has risen into deserved popularity more rapidly than any I remember in the same time, and that is the Golden Feverfew, or Golden Feather Pyrethrum. By far the best plants of this are obtained in any quantity from seed.

The difference between seedlings and cuttings of this plant can only be judged of by those who have seen them together, the superiority of the one over the other requiring no explanation. I therefore advise all who have not grown this plant from seed to so raise it next spring, and they will not resort to cuttings again after seeing the two together. The seed must be very plentiful now.

There are many other plants to which the observations made above may equally apply, and I hope at some future time to return to the subject; but what I have now stated may be acted on with every certainty of success, and with a certainty of lessening the cost and labour of obtaining those and some other plants.—J. Ronson.

SELECT VERBENAS.

In fulfilment of a promise made some months ago, I now offer some further notes on Verbenas, and in doing so I shall confine myself to sorts sent out in the spring of 1868, including the collections of Messrs. Perry, Eckford, Wills, and others. I have now had sufficient experience of these varieties to offer a selection which may be depended on. On the whole I never remember seeing a better batch of novelties, or one containing so many kinds of merit; this is saying much for them, but not more than they deserve, for it is quite the exception to obtain a number of sterling varieties in the same year. I can remember having once had a number of new varieties, out of which an indifferent striped sort was the only one worth keeping.

Amongst the Verbenas of Mr. Perry, James Birbeck is conspicuous; it is a rich rosy scarlet, with a very large pip and truss, of fine form, a strong grower, and altogether a magnificent Verbena. James Day has a somewhat small well-shaped truss, and is of a very bright pleasing shade of violet; it is an attractive Verbena. Mrs. Mole has a rather loose, straggling habit; its abundant trusses of shaded lavender render it a distinct and useful kind. Shirley Hibberd, a strong-growing kind, is true to the description under which it was sent out—intense dark violet, with a small white eye, a rich-looking flower of great substance and fine form. Thomas Harris forms a compact, bushy plant, its trusses are also large, but its colour, a deep mulberry, slightly relieved by a white eye of irregular form, is rather dull; it is what may be termed a good Verbena, but it is hardly bright enough in colour.

In Mr. Eckford's lot, Isa Key deservedly occupies the first place; its colour may be described as bright rose, the trusses and pips are large and finely formed, and its bold, clear white eye gives it a novel and beautiful appearance. It is a splendid Verbena, the most distinct and striking novelty of its year. In Caroline Smith we have another splendid Verbena of a delicate shade of rosy lilac, with a clear yellow eye; it has a fine, handsome truss, and is one of the best for exhibition purposes. Next comes Imperial Purple, with an Arioste-like shade of colour, but richer; it is very dwarf and compact in its growth. This beautiful and useful variety will be cultivated extensively for bedding, its very compact, dwarf habit and rich colour rendering it peculiarly well adapted for such a purpose. A broad band of it would be very effective next shades of yellow, white, or grey. The Cure is a singular flower, curiously blotched or shaded with crimson; it forms a novel variety in a mixed bed, but I do not think flowers of this type are ever so useful or effective as those which, in addition to most other leading points of merit, possess a clear, well-defined shade of colour.

Of the Verbenas of Mr. Wills, a blue variety with a clear white eye, named Miss Wimsett, deserves mention, as being likely to hold a leading place both in the flower garden and exhibition stand for some time; it possesses all the points of a good Verbena—a robust habit, a large truss of fine form, and is of a distinct and pleasing shade of blue, rendered all the more striking by the contrast of a large white centre.

Another very distinct and effective kind is Brilliant, sent out by Messrs. Nunn & Hobday, of Norwich; it is a very bright shade of scarlet, but what renders it peculiarly striking is its very large clear white eye; its whole appearance is quite in keeping with its name. My last selection is one of Mr. Cannell's, named Beauty of Kent; in colour it is what is known as a maroon blue. This is a splendid variety, the bright, rich velvety gloss of its beautiful flowers is as attractive as it is uncommon. Madame Louis Creuze may be noticed as a distinct striped scarlet and white variety, but its growth is rather weakly, and it has a decided tendency to become mildewed.

The foregoing Verbenas have been grown with and selected from many other varieties, new and old. Probably some sorts which I have rejected may be appreciated by others, but I have a liking for decided colours.

I will conclude these notes by naming a very select dozen Verbenas for exhibition. These are:—William Dean, Brilliant, Géant des Batailles, La Grande Boule de Neige, Miss Wimsett, Nemesis, Cooling's Annie, Isa Key, Caroline Smith, Beauty of Kent, James Birbeck, and King of the Lilacs. These are all first-class varieties. Many other kinds are worthy of notice, but they are probably well known to all those who may require a more extensive assortment.—Edward Luckhurst, *Egerton House Gardens, Kent.*

THE TRANSPARENT GAGE PLUM (REINE CLAUDE DIAPHANE).

I was in Paris in 1836, and in paying a visit to M. Laffay, the originator of our Hybrid Perpetual Roses, then living at that very pretty suburb, Belle Vue, he, after our usual fascinating Rose talk, told me that he had raised from seed a most distinct and excellent variety of the Reine Claude (Green Gage) Plum, which he intended to name Reine Claude Diaphane. I was then much more interested in Roses than in Plums, but as far as I remember I saw and tasted the fruit, which I thought distinct and good. Some few years after this period, I received a tree or two from M. Laffay. The sort seemed a most vigorous grower, but the trees did not bear fruit, and consequently I was not impressed with its excellence. I seem to recollect that the trees did not bear any fruit till I had some of them potted and placed in one of my earliest orchard houses, and I then saw how distinct and excellent it was. Its robust, smooth, and almost purple shoots give the tree a most distinct character; and its beautiful Gage-like fruit, greenish yellow, covered with crimson blotches, make it an ornament to the dessert. Its flavour is most delicious, and I am sometimes inclined to think it superior even to the Green Gage, that universal favourite, its juice being less cloying and most refreshing. In cool climates it should be planted against a south wall. It is late in ripening on standards this season, as the fruit are still hard. What a long time often elapses before a new fruit is appreciated! Grapes seem the exception.—Thomas Rivers.

ROSE DOTTINGS.

Our rosarian friend "D.," of Deal, has asked why more of our readers who love the "queen of flowers" do not state their opinions of the varieties in "our Journal," and thus give to others the benefit of their experience. I remember many years ago in our pages reading words to this effect from our other grand rosarian, the Rev. W. F. Radclyffe. He said that a "rosarian" was a *rara avis;* very, very few rosarians, but many Rose-growers, and I fancy this distinction has made many of us humble Rose-growers chary of offering our mites in the discussion. I had certainly been meditating a notice of my favourites, and as often thought I could add nothing of any value. The meditation might have ended in smoke, instead of pen and ink, as at present appears probable, had not our good friend "Wiltshire Rector" unexpectedly turned up to visit me in my new quarters. Amongst other questions put to me by "our mutual friend," he had the coolness to ask if I knew whether one "Y. B. A. Z." was dead, as nothing had been heard of him for some time. I was driving him about in a carriage at the time, and consider a debt of gratitude due to me from all readers of "our Journal" that I did not at once in a proper damaging manner upset the carriage, and turn our worthy friend out. For this present Rose infliction, then, "Wiltshire Rector" is answerable. I might have replied to our friend's query more truthfully than the Irishman, stunned in a scuffle, who, when roused and asked if he was dead, replied, "I am not dead, but I'm spacheless." Circumstances have made me "spacheless" as regards "our Journal." Like my shifted Roses, lacking the bountiful supplies of water which our great rosarian would give them, I have not exactly settled down into the fresh soil, and my time has been fully occupied.

In a former Rose communication I stated my partiality for the Manetti stock. Amongst my brother amateurs in my present little Wiltshire town this stock is not appreciated as it deserves to be. We have a very hungry soil, one like Pharaoh's lean kine that devour the fat kine, and are none the fatter for the meal, and one of our best amateur Rose-growers here, who

spares no expense in the culture of his favourite flower, says he means to take his trees up every autumn, and give them fresh food, &c. The great majority of his plants are on the Briar; they are all well tended, thoroughly watered and fed, and his plants are in prime condition; this year, however, hundreds of his Maréchal Niel buds dropped just as they were expanding, the core being rotten, the stem rotting also. My friend has six or eight plants against his wall in robust health, with shoots 10 feet long. Just as the flowers were on the point of opening we had very cold winds and rain. I went over his garden before our local Rose show (amateur); it was pitiful to see the ground strewn with buds. I pointed out to him, however, a break in the wall where two or three buds were sheltered from the rain and had been kept dry; these were perfectly sound, and made beautiful blooms; and I fancy I learnt "a wrinkle" from that accidental hole in the wall. About the same time I saw in his garden a Marie Baumann on the Manetti that was worth going a long way to see—some six or eight blooms, all "fit for immediate exhibition," open at the same time. It exerted the same spell on its master as on the Rev. W. F. Radclyffe; he never tired of looking at it, declaring that he never knew what a real Rose tree was before! His partner, an equally enthusiastic Rose-grower, showed at our annual meeting six blooms, nearly all he had open, which obtained easily the first prize in their class—they were triumphs of Rose-growing; Maréchal Niel, Triomphe de Rennes, and Cloth of Gold especially. But this gentleman also exhibited as a single a bloom of Maréchal Niel, as a curiosity, for it was too far gone. I do not think I exaggerate, and certainly would not willingly do so, but I believe it must have been 6 inches across and 3 inches in depth. Many of the visitors could scarcely believe their eyes, and it was likened to a Cabbage! The Maréchals that do best here are budded on the Briar low down, almost underground. I had budded it on the Gloire de Dijon at Hinton, but had not seen it bloom before I left. I fancy the Teas generally do not like the Manetti stock; whilst I well recollect some years ago somebody—was it Mr. Rivers?—saying in "our Journal" that Gloire de Dijon would prove the best stock for the Maréchal.

The most successful Rose-grower in our amateur society—he may be fairly called a rosarian, I think, as he has certainly introduced one seedling—had tried the Manetti extensively. This year his Manetti plants have suffered severely from mildew, and he threatens to make a clean sweep of them. Is it the fault of the stock?

But to come home. What a pity it is that that most lovely Rose Cloth of Gold requires such an "age of years" to ripen into womanhood. Planted against a house in a favourable aspect, adorning it with its beautiful foliage, it will, when ten or twelve years old, bloom abundantly; in my old locality several trees were noted. Does it not repay the waiting? Triomphe de Rennes is another great favourite of mine; vigorous in growth, free in blooming, beautiful to the eye, delightful in perfume, but disliking, as my experience goes, a sharp winter, yet in my estimation among the first-raters of the Rose world. Climbing Devoniensis is a most useful Rose, but will our master rosarians give us a hint in the treatment? I have seen one this year which has sent up a shoot fully an inch in diameter, still growing, and fully 16 feet long now. What ought to be done with it? Should its progress have been nipped in the bud? Will cutting it back to 3 feet in the spring make it bloom at every joint? Anyway, there are some who say that it requires more knife than it usually receives. I am surprised that "C. W. M." does not name Souvenir d'un Ami, one of the most lovely Roses I have ever seen, faultless in shape, of lovely colour, and as a pot plant most graceful. Sombreuil this year has disappointed me; it is hardy, and a useful Rose all the same.

Of Hybrid Perpetuals Charles Lefebvre is magnificent; it certainly is not so full as I should like, but it is kind in its nature, and will do well on the Briar, the Manetti, or on its own account, and will never fail to have admirers. Alfred Colomb and Marie Baumann are Charles Lawson's equals, if not superiors; both are first-class Roses, and the former is very kindly in taking hold when budded. Mdlle. Marie Rady is not much behind these. But what has become of Rushton Radclyffe in some of our catalogues? Is it discarded? and wherefore? It may owe something to its name, but some of the finest specimens of the Rose I have ever seen are from this discarded plant. Exquisite in colour and form, with the petals so evenly and regularly placed, it has attracted the attention of many of my friends; it is, however, a rather tender Rose. With me it is vigorous in growth. It is on the Manetti.

In my hands General Washington has been continual disappointment. Year after year have the most splendid buds of immense proportions appeared, and just as it was opening it would split to pieces. I still have one plant on its own roots, and I have hopes that it will behave better in Wiltshire. If it open well it is worthy a place in every collection. What of another American—viz., the Noisette America? I have never succeeded but once in obtaining a good bloom of it; that, however, was worth waiting for. It seems to me that the petals are too large and too numerous, and the lapping-over such that it cannot overcome. Mr. Keynes shows it in perfection as an opening bud, but even in his stands I have not seen it fully expanded. Both these Americans suffer, it seems to me, from a plethora of petal. Madame Victor Verdier, an improvement on Senateur Vaisse, is always useful, like Senateur. Both are magnificent Roses, and will do on either stock.

I quite agree with "C. W. M." that Duchesse de Caylus is of exquisite form and of fine colour—in fact, in every way it is a first-class Rose. Its only fault, perhaps, is a deficiency of size. Pierre Notting and Leopold Premier are also first-rate; the latter about here has this year come constantly with a large green eye. I think they both prefer the Manetti stock. Comtesse de Jaucourt will, I fear, prove coarse, though for colour it is desirable. Madame Moreau is perfectly distinct; that is something in these days. It is apt to appear crumpled and not to open freely, but to me its distinctness is a very great point. Xavier Olibo for brilliant richness of colour is perhaps unrivalled, but it opens badly, and when fully expanded is thin and poor. For exhibition purposes we want flowers that will at least retain their shape for a few hours, and not expose the nakedness of the land before even the judge's eye has been over them. Hippolyte Flandrin is indeed a prodigy when you can get it, but there's the rub. Is it true that its first year's growth is the only growth worth having? If so, this must greatly detract from its merits. Mdlle. Marguerite Dombrain is all that "C. W. M." thinks—it ought to be in every collection; still, we have old Roses very like it—to wit, Louise Peyronny. But what of its respected parent, I mean as a Rose? Why is the Rev. H. Dombrain discarded? It is very distinct, in colour often almost mauve, with a glossy brilliant softness which is most pleasing. Moreover, it is an abundant bloomer and very vigorous. I cannot give it up. Like many others, a few more central petals would improve it. Monsieur Noman is indeed a splendid Rose. Certainly, the late blooms this year are poor, but then what a summer! Does not that account for the poverty? But if Monsieur Noman is grand, Madame Noman is sweetly pretty; to be sure it is small, but then who ever saw a fine large man take a large woman for his wife? So we must be content as regards size, but the fimbriated edges of the petals and its lovely shape make amends. Of another white, Boule de Neige, the same may be said as to size; it is, however, a pure white, and an acquisition. Still, among the whites, why not more of Mdlle. Bonnaire? It is a beautiful Rose in every way with me, and carries the largest blooms that I know amongst the white Remontants.

Then who would be without John Hopper, a first-rate English Rose? There is something in the latter that ought to make us cherish it. Moreover, its name is pronounceable in these days of "Who's who." La France and Madame la Baronne de Rothschild are both promising Roses, but as yet I cannot speak from experience. There is another Rose that I do not see so often as I fancy its merits deserve, that is Lælia; it is a great favourite of mine. Maréchal Vaillant is another old friend for which I must always find room. It may be somewhat straggling in growth, but in colour, shape, and perfume it is very good; and it has this advantage in the garden, that it flowers rather later than the others, when a fine bloom is becoming rare.

Amongst the whites I have omitted one, a great favourite of mine, Louise Magnan. It is a gem of a Rose, but has had with me a serious drawback, which is, that even in its second year it is very easily broken by the wind at its junction with the stock. I have lost several in this way, even when the point of junction was 2 inches underground.

After all, were I forced to select one single Rose as most suitable for every purpose, my vote must go for Gloire de Dijon—free and vigorous in growth, hardy in constitution, profuse and constant in bloom, almost our earliest, and certainly one of our latest (I once picked a beautiful bunch of buds on January 1st), of glorious colour and delicious perfume, good

in size and beautiful in form—over an old wall, against the side of a house, in the biting north aspect, or the sunny south, commend me to glorious Gloire, our constant, firm, unflinching friend. My old tree at Hinton covered a space at least 16 feet square, and I once counted upwards of four hundred blooms out at the same time.

Time and space fail me to write of many of my older favourites—Jules Margottin, Mrs. Rivers, Madame Vidot, Baronne de Noirmont, François Lacharme, Comtesse Cécile de Chabrillant, a gem; Auguste Mie, old, but often unsurpassed, in my humble opinion; Baronne Prévost, Le Rhone, Madame Charles Crapelet, very lovely; Acidalie, small, but perfect in form, though very soon dropping its petals; Madame Hector Jacquin; Lord Macaulay, brilliant in colour, very free in blooming; Vicomte Vigier, a first-class Rose; and Souvenir de la Malmaison, magnificent though old, but a fine-weather Rose. Princess Mary of Cambridge, like its royal godmother, must always be popular.

Accidentally, the other day in an old rectory garden I saw some aged standard Rose trees, the stems were of giant proportions; but there I renewed an acquaintance with an old favourite almost forgotten—viz., Boula de Nanteuil; and truly, though flat, it is still a grand Rose. Amongst these Roses was another old friend, my intimacy with which has not been interrupted—namely, Coupe d'Hébé. It was, as always, lovely and elegant. Is a Rose collection complete even for us poor "Rose-growers" without her? or, again, without Charles Lawson, a giant in bloom, and lavish of bloom in spite of the size? or, again, beautifully formed Paul Ricaut? I recollect old Thomas Cole, of the Wellow Rosery, near Bath, a name well known among rosarians and Rose-growers in the west, was wont to remark that were Paul only a Perpetual no Rose would equal it. Another of his great favourites before the introduction of Gloire de Dijon was Lamarque. It was in those days of old his Rose of selection; but then it is decidedly tender; and oh! that winter of some eight years ago, what havoc it played with this identical Rose! Many a grand tree in my "auld counthrie" was either entirely destroyed or reduced to most diminutive proportions.

I am running on, and need, perhaps, a thorn from one of my pets to stop me; but just a word on stocks. "C. W. M." says that to all "true rosarians" "the Briar is doomed." Well, as I do not profess to be a rosarian, only a poor Rose-grower, I suppose I shall still stick to the old friend for some things. I have before said that my belief in the Manetti is unbounded; still, my experience in budding Tea Roses says they have not the same high opinion of the Manetti that I have, and I confess that, after seeing the reasons, my faith in the Manetti as a stock for Tea Roses is considerably weakened. The Noisette Roses also, I fancy, do better on the Briar; still, in general gardening for effect, it is often necessary to have Rose trees as standards. I am not so certain that the Manetti answers budded, say, 2 feet from the ground. I have no doubt that it does answer with some Roses—that is, if seeing is believing; but in these days, when some suggest that you should believe nothing that you hear and only half what you see, it may, perhaps, be a question whether my eyesight has been at fault, yet generally for this higher budding I do not fancy it will answer. We must then fall back on the Briar, and, setting aside the annoying suckers, some of our best Roses behave grandly on it. No one who has seen such Roses as Jules Margottin, Madame Victor Verdier, Charles Lefebvre, Gloire de Dijon, Baronne Prevost, Charles Lawson, Maréchal Vaillant, Monsieur Noman, and others doing well on the Briar would cry out much against that stock for them. We need to study each Rose for itself. Some, as Louis XIV., prefer standing on their own merits; some, again, prefer the Briar; while the great majority will do well, or better, on the Manetti than on anything else. We all have our whims, why should not Roses?—Y. B. A. Z.

P.S.—My advice to "C. A. G." *in re* Manetti stock, is to try a few. Any impartial person will soon see the difference of the rapid growth and free blooming, compared to the same Rose on the Briar. The Manetti has one disadvantge—that its foliage being larger than the Briar, it is by young hands often mistaken for the actual Rose, and a sucker I have frequently known nurtured and tended as if certain to produce a store of exhibition blooms. With the Briar such an error is impossible, because it is discovered immediately. If the disbudding is thorough and deep in the Manetti cutting, it can very rarely happen there.

I must again repeat that I have seen very respectable heads on the Manetti budded as a half-standard; but as seeing, even, is not always believing, I agree, humbly and at a long distance, with the Rev. W. F. Radclyffe, that the right way is to bury the junction, and many Roses will the first year throw out their own roots.

The Rev. W. F. Radclyffe writes, "The Manetti stock is not an imposition." If he will allow me, I will say ditto to him as strongly as it is possible or allowable for me to say. It has been my lot during the last few years to be constantly seeing two of the largest nursery gardens in the neighbourhood of Bath. One does not exhibit, the other is continually to the front: both have a large stock of Manetti-budded Roses, and in both it is considered for general purposes first-rate; it is in one of these gardens that I have seen the successful half-standard Manetti budding; but the soil where these half-standards were is peculiar—very rich, and it had formed at one time, if I recollect rightly, the bed of a canal. If the Manetti stock were the only "imposition" in the gardening world, we should all of us have reason to be proud of the purity of our hobby.—Y. B. A. Z.

INFLUENCE OF THE STOCK UPON THE GRAFT.

[Mr. Fenn, of the Rectory, Woodstock, whose specimens of Ribston Pippin Apple, from trees grafted on the Blenheim Pippin, were brought before the last meeting of the Royal Horticultural Society's Fruit Committee (see page 245), has favoured us with the following account of his experiments.—Eds.]

Eleven years ago I happened to be near an old Ribston Pippin tree, in the last stage of canker; near it were some old but most vigorous trees of Blenheim Pippin. (This excellent Apple was raised by a man of the name of Kempster, of Old Woodstock; I saw the original tree when I first came to reside here, and afterwards when I wished to procure a piece of its wood as a memento, I found that it had been cut down, and given to the fire.) At the time I saw the above-mentioned trees so flourishing by the side of my favourite Apple, the Ribston Pippin, it occurred to me whether it would not be possible to infuse new vigour and strength of constitution into that stunted and unhealthy form of Ribston Pippin generally met with about the country, producing ill-conditioned foliage, and immature fruit. With this view I sowed some pips of the Blenheim Pippin, as being most likely, from the healthy, vigorous character of the variety, to produce a stock that would bring about a change for the better; also to prove whether the influence of fresh and vigorous sap from a young and free-growing stock would remedy the destructive canker in the bark, and, as a consequence, add fresh life to the Ribston Pippin.

By the time the second year's growth of the seedling Blenheim Pippins had arrived, I singled out the strongest stock of the batch, one having a fork—that is to say, branches springing from its base. This stock I grafted with two miserable-looking scions from the diseased Ribston Pippin, both of which to my astonishment succeeded, and by the following year they had made strong growth. The tree was placed against a wall, and I then determined to carry my experiment further by removing one of the grafts just above its union with the stock. In order to do so, I removed with a penknife about 2 inches of bark all round quite down to the wood, by this means causing the formation of a cicatrix. Further, I tied damp moss round the limb, then bent it down, and fixed it horizontally upon the earth, with which I covered the moss, keeping all constantly moistened during the summer and autumn. The limb which was thus ringed rooted into the moss and soil readily, and in the following November, when it was safe to do so, I severed the limb, or graft, entirely from the tree, and planted it in a pot, where it has continued to make good and clean growths of wood, though of not nearly so vigorous a character as its fellow scion, which is still growing on its stock raised from the pip of the Blenheim Pippin.

The tree against the wall produced its first fruit in 1866, and it has produced good crops ever since, especially during the present unfavourable season. The bark of the stem and branches is remarkably smooth, and free from canker, and the foliage is vigorous and highly developed, partaking very much of the character of that of the Blenheim Pippin, whilst the fruit bear a striking resemblance, in general form, to those of the Ribston Pippin, and though smaller this season, are usually about the size of those on a healthy tree of the latter variety. In texture of flesh the fruit is not so solid as that of the Ribston Pippin, and unfortunately it has not half the flavour of the

latter, being a combination of the flavours of the Blenheim and Ribston Pippins. I think it one of the best, if not the best, of early autumn Apples which I know for pies, giving in August that mellowness which one usually has to wait for in Apple pies till March or April; thus singularly advancing on the Blenheim Pippin, which in its early maturity has a mealy, green rawness when cooked.

I have been waiting for some years with considerable interest for fruit upon my second tree in the pot, and I am happy to say it has this season ripened three fruit, with, on my part, great battling against insects. I cannot, in fact, I dare not, taste one; all must come before the Royal Horticultural Society's Fruit Committee; but if the property of smell can lend me hopes, then I have maintained the Ribston intact, and restored the wood to its pristine health. Two of the fruit are not perfect in shape, but this I attribute to the season; the third is perfect in shape, and true in appearance; but like their namesakes against the wall they are small. The tree is growing in an 18-inch pot, and during its growth it has had four shifts. It has ripened its fruit in the open air, and in consequence of the mildness of last winter it was not placed in the orchard house.—Robert Fenn, *Woodstock*.

THE HURRICANE OF SEPTEMBER 12TH IN GUERNSEY.

It seems naturally reserved for us dwellers on the stormy coasts to relate our experience of the violent storms which periodically devastate our shores. I have thus several times recorded here our experiences of very severe gales, but that of the morning of Sunday, September 12th, was the most fearful of all, and, as such, requires a few remarks on its characteristics.

Though so near the autumnal equinox, no one could forecast so sudden a storm; but the past summer has been altogether remarkable, and what the winter will be can only be imagined, for we have no reliable data nor experience to guide us. It seems as if destructive currents of air must be expected to result from the various marked alternations of rain, drought, and general absence of sunshine. We are, therefore, promised tidal waves of unusual heights, and concurrent storms, nor can we affect to doubt their sad possibility.

Not only was the hurricane of September 12th sudden and unexpected, but it was, perhaps, also the most terrific ever felt in these islands. On the Saturday afternoon so little appearance was there of any unusual disturbance in the atmosphere that my wife and myself were encamped close to the sea, and in the immediate neighbourhood of a venerable cromlech, well known to tourists at Perelle Bay. At about 3 P.M., a heavy squall blew down the awning of our tent, and a drenching rain warned us to strike tent and return home, to which we drove subsequently, little anticipating the night that was to follow. By nine o'clock the barometer had fallen 3½-tenths, and was then 29.153, and the pressure of the wind per square foot was already nearly 20 lbs., but during a squall it reached 30 lbs., or 80 miles per hour. We carefully secured the various glass houses, taking especial care to exclude back currents—and this I would here strongly impress on others, for nothing cracks glass so speedily—the wind being then from a dangerous quarter, S.S.W. Having had nearly 100 feet in length of orchard houses blown down nine years ago, and a somewhat less accident in 1856, experience has shown what is needed in ordinary gales of 30 lbs. or 35 lbs. pressure. Only last winter we experienced, however, the pressure of 45 lbs. to the square foot, but this occurred with a safer direction of wind, and was of short duration. Still it was a surprise to me, thinking, at that time, that a pressure of 35 lbs. was something extremely perilous to glass, as it prostrates many a noble tree. By midnight the wind raged with fearful strength from the dangerous quarter S.W., which usually takes our numerous glass houses in these islands obliquely, inferior only in risk to them to a full blast directly in front. Then, and then for the first time, did we hear the roaring of a hurricane of the power of no less than 55 lbs. pressure, which equals a velocity of 105 miles an hour! Our old house rocked violently, and the sound of the falling of slates and the cracking of glass was distinctly recognised, indicating some dangerous unroofing, which the daylight verified too surely. Vivid lightning accompanied the squalls, and loud thunder, with rain. By the dim light it was easy to see prostrate trees on the lawn. No one slept, and we "longed for the day."

By 6 A.M. the violence of the gale had sensibly diminished, and the anemometer recorded at that hour a pressure of 31 lbs., or that of a rather severe equinoctial storm on the seacoasts, which, however, was comparative quiet to us. The barometer rose to 29.515, sea-level.

Of course the damage done was immense, chiefly, however, to the trees of the island. Numerous chimney-stacks fell, the fishing boats moored in the several bays were nearly all swamped, and many injured, and numerous roofs of houses were damaged. The gardens seem to have suffered the most; the fruit crop is irreparably spoiled for the market, to the sensible loss of the small growers here. Trees of all kinds exhibit the forlorn appearance, noted in the English journals, of having been scorched as by fire. Although the violence of the atmospherical current seems sufficient to account for this blackened look, may it not also be due to the presence of salt in suspension in the air? A seemingly inefficient obstacle appeared to turn the stream of air aside or upwards in certain cases, and the protected portions are as healthy as usual, lying close to black and scorched leaves. Does not this point to the unrecognised value of thin screens of foliage, living or faded? Had I possessed screens of sufficient strength for open-air Peach trees they should, without doubt, have been carefully spread over the autumnal foliage. There is more care really required in protecting the leaves of plants from external injury than in merely encouraging their free growth: hence one value of glazed protections, which effect this without obscuring the sun's rays.

To my great astonishment this unusual pressure of air has not done the damage to glass which might be feared. The largest panes of glass have stood as well, if not even better, than those of the ordinary size. The first-named are thicker, and I therefore conclude that a wide pane of glass of 21 ozs., or thereabouts, is safer to resist a squall than a much smaller one of only 16 ozs. The fact of these large panes being as secure as the more ancient small ones is encouraging to builders of orchard houses. All houses, however, should be solidly constructed, unless in unusually sheltered localities, as it is the vibration which loosens the putty, and causes the glass to slip down or break. For a gale from any quarter, all ventilators should be closely shut, and entrance by the doors avoided.

These destructive storms should prove that fruit culture in the Channel Islands has its peculiar difficulties. There is nothing more injurious to fruit and foliage than high wind. —T. C. Bréhaut.

BEDDING PLANTS AT THE ROYAL NURSERIES, SLOUGH.

If anyone wishes to form some idea of the value of certain plants for bedding purposes, he cannot do better than pay a visit to the Royal Nurseries, Slough, during the summer months. Every year Mr. Turner beds out on a considerable space of ground, occupying one of the most prominent positions in the home nursery. There is little attempt at a set display, rather there is to be seen a very interesting trial ground occupied by all the leading new kinds of Pelargoniums of home and continental origin, Verbenas, and the like. One piece of ground at the east side of Mr. Turner's dwelling-house consisted of nineteen beds some 25 feet in length by 3 feet in breadth; fifteen of these were filled with Nosegay and Zonal Pelargoniums, two with Variegated Pelargoniums, and the two end beds were used as small ribbon-borders by way of imparting a little ornamentation to the whole. Somehow things appear to do uncommonly well at Slough, let the weather be never so dry; and this summer, while many parts of the country were suffering from a drought almost as disastrous in its effects as that of last year, at Slough plants looked as if they at least were unchecked by it in the least.

Looking over the Zonal Pelargoniums, the following were first-rate as bedders:—Gloire de Corbeny, carmine salmon, with pale edges, immense even trusses of bloom, and dark zonate foliage. This stands the sun remarkably well for a salmon-coloured variety, the general charge brought against such being that the flowers burn and become sadly disfigured. Virgile, salmon, with carmine centre round a large pale eye, dark zonal foliage, excellent habit, and splendid trusses of bloom. Forester, dark salmon rose tinted with purple, large trusses of bloom, good habit, and dark zonate foliage. Lucius, bright pale orange rose, very large and bold trusses of bloom, faintly marked zonate foliage, and good habit. Jean Sisley rich bright crimson, white centre; very bright and showy. Dr.

Ricci, a grand new continental variety, having brilliant scarlet flowers, pips very fine, and magnificent trusses; foliage broadly marked with a dark zone; excellent habit. Theodore, soft salmon rose, a finely-shaped flower, and striking dark zonate foliage; one of Messrs. Windebank & Kingsbury's fine new varieties. Warrior, brilliant deep vermilion, immense trusses of bloom, plain foliage; very fine, one of the hybrid Nosegay type. I have no hesitation in heartily recommending the foregoing to growers of this popular flower. Of the Nosegay type, the following are well worthy a place with those just described:—Gloire des Massifs, bright orange crimson, very fine trusses of bloom, foliage slightly zonate; a grand bedder, most effective in this relation, and one to be looked after by those desirous of procuring something new and good. Monsieur E. Buenzod, soft pink, faintly zonate foliage, very dwarf grower, and though furnishing very fine trusses of bloom, remarkably free. Both these are new continental varieties. Nosegay St. George, one of Mr. William Paul's flowers, deserves the highest commendation as a bedder. It is a plain-leaved variety, with rich deep crimson flowers, good trusses, and remarkably free; one of the flowers that deserve a place in every garden.

In another part of the grounds I saw a new continental variety of very considerable promise under the name of Amedée Achard, the flowers rose, tinted purple, the upper part of the flower dashed with orange, trusses large and bold, dark zonate foliage, and remarkably dwarf close habit, and an excellent bedder. Mr. W. Paul's Blue Bell was succeeding remarkably well here, and the same experience of this fine new variety has met me wherever I have seen it during the present season. Rising Sun is another excellent variety, very dwarf in growth, and having good trusses of bright crimson flowers, and extra fine as a bedder. There was also an excellent Nosegay variety with rich deep crimson flowers, something in the way of Le Grand, but brighter. Unfortunately I could not discover the name of it.

Of the Variegated Zonal section of bedding Pelargoniums, Lady Cullum and Sophia Dumaresque are really good bedders, and deserve to be commended as such. By the side of the path skirting the old Bath coach road, were a couple of large stone vases, one filled with Lady Cullum, the other with Sophia Dumaresque, and both edged with blue Lobelia. These were most effective objects, the Pelargoniums being luxuriant in growth and handsomely coloured. Of the Silver-edged section, Bijou Improved is an excellent and most useful bedder; having more white than the old Bijou, it is much softer-looking, and it bears deep crimson flowers. Very fine indeed was old Flower of the Day, by no means to be despised, though surrounded by such a large group of new aspirants for popularity; but, alas! how few are likely to run such a lengthened career of usefulness as the perennial and constant Flower of the Day. It will not be given up just yet by many.

A large bed of Chrysanthemum Sensation, the creamy-variegated kind, mingled with King of Tom Thumbs Nasturtium, had a very pleasant appearance. The dark hue of both flowers and foliage of the latter, contrasted admirably with the former, and were most effective. An oval-shaped bed of the old Ivy-leaf Pelargonium was just as effective; there was a kind of natural unevenness about it that rather added to than detracted from its usefulness.

Mr. Turner's new Tropæolum Ochrolencum promises to be a valuable golden-leaved bedding plant, the leaves being purely of a creamy-golden hue. It grows freely and does not bloom, or if it does, only produces a few half-developed flowers. For colour, Pyrethrum Golden Feather is inferior to it, and the Tropæolum promises to displace it. It came up somewhere about the nurseries self-sown, and will have to be propagated by cuttings.

There were also to be seen several effective beds of Verbenas, inclusive of Mr. Perry's new kinds. Of the latter, Chastity, pale pink; and Richard Dean, shaded plum purple, with large and showy pale eye, make capital bedders, the latter especially, the habit being remarkably good. King of Lilacs, of a somewhat pale hue of colour, makes an excellent bedder also; and old Géant des Batailles, and the almost as old Firefly, were both remarkably good as bedders also. A variety named Delicata, with violet rose flowers, was very pretty and attractive, and has a somewhat unusual dwarf and compact habit for a Verbena.

Delphinium Madame Zelandais should be noted by those—and it is to be hoped their name is legion—who cling with a loving regard to the somewhat neglected class of perennials. It throws up a handsome spike of double flowers, in form like that of a Hyacinth; the individual flowers are of a pale ground heavily edged with light azure blue.

But it is worth while glancing for a few minutes at some aspects of Mr. Turner's garden ornamentation, or bedding-out. I have already stated that at each end of the Pelargonium beds something had been done in this way. There was also a ribbon border on the west side of the beds running at right angles to them, and this was planted with a background of Perilla nankinensis, then a line of Stachys lanata, then Pyrethrum Golden Feather, then an outer line of blue Lobelia. This was neat and soft in appearance, even though there was such a glare of colour behind it. On the north side there was a line of Madame Vaucher white Pelargonium at the back, then a line of Perilla, Stachys, Pyrethrum, and blue Lobelia as before. On the south side there was a background of the Catmint, Nepeta cæsia, with a profusion of lavender-coloured flowers, said to come into bloom in May, and continue all the summer in flower; then a line of the Perilla and Iresine Herbstii mingled together, contrasting the one with the other, and yet nicely blending; then the Golden Pyrethrum; then blue Lobelia, and an outer edging of Cerastium tomentosum. On the east side of this series of beds is a main walk running through the grounds from south to north. Here was a ribbon border not without some elements of originality in its construction and some novelty of arrangement. The background was composed of a line of dark and light Fuchsias, with white-corollaed varieties at intervals. These Fuchsias were about 2 feet in height. Then a line of Nosegay Pelargoniums composed of two plants of Duchess of Sutherland and one of Lady Constance Grosvenor planted alternately; next a good line of yellow Calceolarias, then an excellent line of the Nepeta in full bloom, with Irish Yews at intervals, a permanent row of them belonging to the border. A line of Iresine Herbstii and Cerastium candidissima mingled together followed, then a line of scarlet Pelargoniums, next the Pyrethrum, then a line of the blue Lobelia and crimson Ivy-leaved Pelargonium mingled together, the crimson flowers of the latter nicely blended with the blue of the Lobelia, the whole edged with a broad band of Cerastium tomentosum. There was a pleasant stiffness about this border, so unlike many ribbon borders where an undue and offensive glare of colouring is the great feature.

Around the square span-roofed conservatory were other flower beds, some of which were of more than average merit. Two of these have already been mentioned. A third was of the shape of half a circular band, and was filled with Golden Fleece Pelargonium mingled with Amaranthus elegantissimus. This is a very showy plant indeed, and will always prove a great attraction in localities suited to it. The arrangement of another bed struck me as being remarkably good, but the shape of the bed was altogether unique. Imagine a horse with the legs and head close behind the ears severed from the body, and the shape of the bed can be realised. A line of Echeveria metallica was placed along the centre, on each side was Amaranthus melancholicus ruber, then on each side again Centaurea candidissima, and an outer edging of blue Lobelia. Another good bed was a long oblong in shape, with a specimen of Coleus Verschaffelti in the centre, and from this a line of Echeveria metallica ran to each corner. The angles at the ends were both filled with Pyrethrum Golden Feather; and those at the sides, one with Lobelia Erinus speciosa, blue, the other with L. Paxtoniana.

On the north side of the conservatory was a large circular group of plants, the arrangement of which was of such a nature as to make it worthy the attention of the promoters of horticultural exhibitions anxious to gain some idea of disposing their forces, differing essentially from the stereotyped plans so invariably followed. Frequenters of the Royal Nurseries will remember that on the north side of the conservatory there is a broad open gravel space. Here Mr. Turner grouped twelve standard Laurustinus in pots, but far enough apart to admit of a free circulation of air among their heads. Then in among them were placed flowering plants of Kalosanthes coccinea, scarlet and other Pelargoniums, and various plants, quite filling up the intervening spaces; then Humea elegans and plants of Campanula pyramidalis in pots were placed round these; next came a circle of Centaurea candidissima, then one of Amaranthus elegantissimus, another circle of a dense-growing Saxifrage, with an outer edging of blue Lobelia, all the plants being in pots. Finally, the plants of Campanula pyramidalis had been bent down outwardly, and fastened to the ground between the pots of the blue Lobelia. The effect was surprising—it was a good idea well expressed.

In a first-class nursery like this, with its extensive stocks of plants of all kinds, there must always be something of interest to the practical horticulturist. Much that is interesting and instructive I have touched on, but one more allusion and I have done. On the front stage of the long Pelargonium house was a large number of plants of the double variety, Gloire de Nancy, young stocky plants covered with large trusses of bloom. They were simply growing in large 60-pots, and yet were in finer condition as regards health and quality of flower, than many more pretentious plants growing in larger pots. They had become pot-bound, and then were kept freely watered. This was the simple explanation made to me. It was "a wrinkle," and one worth placing before your readers.—Via.

MESSRS. CARTER & CO.'S CRYSTAL PALACE NURSERY.

The increase of this nursery, both in extent of land and extent of glass, during the last seven years has been most remarkable. Seven years ago it was but a small place, chiefly devoted to growing bedding plants; now, not only these but nearly all descriptions of ornamental plants are cultivated, and by a recent purchase of land there will soon be 40 acres of ground occupied for nursery purposes. A portion of this area is at present in grass, but even without it the additions made since 1862 have been very important; for instance, a trial ground of 6 acres, in which are tested the samples of seed furnished to the firm from its own extensive seed farms, as well as from independent growers. There are now eight large glass houses variously occupied, besides twelve ranges of pits, all of which Mr. Boston, the energetic manager, keeps constantly employed.

After passing through the show house, where Palms, tree Ferns, and a variety of other ornamental plants are effectively arranged beneath the Black Hamburgh and Buckland Sweetwater Vines on the roof, a flower garden is reached, the bright colours of which catch the eye on the way to the nursery from the Forest Hill station. Here Abutilon Thompsoni had been planted out at the end of May, and formed a very attractive front row, its green foliage mottled with yellow being so distinct in character from the golden-leaved Pelargoniums. How late in the season the plant may be trusted out of doors remains to be seen. Sempervivum californicum, Echeveria metallica, E. secunda glauca, and the dark reddish brown-leaved Echeveria sanguinea, were also planted in considerable numbers; there was likewise a seedling Echeveria, called metallica glauca, which is of free growth, and of the colour of E. glauca. Alternantheras, plunged in pots, were not doing well, with the exception of A. amabilis; but A. spathulata, though not flourishing here out of doors, makes a fine pot plant. Among Pelargoniums, Mrs. Dunnett and Sir Robert Napier were noticeable as two of the best of the Tricolors, the latter being especially conspicuous by its very broad and dark zone. Conspicuous among self golden-leaved kinds was Carrie Fowler; and among the silver-variegated, Snowdrop, which is of free growth, and exhibits a pure white variegation, but like others of its class it has the fault of cupping its leaves, no doubt owing to the green centre growing more rapidly than the white circumference.

Proceeding to another part of the grounds we find a stock of Strawberries in small pots of a made size, deeper than thumbs and rather less in diameter, being 3 inches deep by 2½ in diameter. These are very cheap, and can be ranged together more closely than pots of larger diameter—an object where room has to be found for 100,000 pots, which was about the number here. Mr. Boston has now all his Strawberry runners in pots, instead of taking them up; and so with bedding plants, each cutting has its little pot, so that the roots are not interfered with when the plants are sent out, and consequently the plants soon become established in their new quarters. It may here be mentioned that the spent hops from the London breweries, and which can be had for little more than the cartage, are used as a plunging material and for mulching, and answer exceedingly well, being moist and affording for a time a slight bottom heat. A large number of herbaceous plants are grown, and most of the new Clematises are likewise represented; the double-flowered one, John Gould Veitch, had been magnificent, and was still fine, though its beauty was declining.

The stove and Orchid house, with which is combined the propagating house, forms a span-roofed range 102 feet in length, divided lengthwise by a glass partition, and crosswise into three compartments. These contained good specimens of Phalænopsis Schilleriana, Vandas, Aërides, Lælias, Dendrobiums, Odontoglossums, and other Orchids, nearly all of which were out of flower, and a variety of ornamental-foliaged plants, as Dichorisandra mosaica, Anæctochils, new Marantas, the beautiful Bertolonia guttata, and Sonerila margaritacea, Eranthemums, Fittonia argyroneura, Passiflora trifasciata, &c. There was also an excellent plant of Anthurium Scherzerianum. In a basket was a moderate-sized Monstera deliciosa, which, though it has been recommended for cultivation as a fruit-bearing plant, will probably continue to be grown merely as one remarkable for its foliage, the fruit, unless used at exactly the proper state of ripeness, containing irritating spicula, which more than counterbalance its Pine-Apple flavour. The propagating house, which formed the back half of this range, was filled with cuttings of miscellaneous stove and greenhouse plants, grafted Camellias, Pereskia stocks for Cacti, &c. Another house, 90 feet long by 15 wide, was being filled with cuttings of Sir R. Napier and other new kinds of Pelargoniums, chiefly Tricolors. These occupied one division; another contained several promising seedlings, fine specimens of L'Elegante, Ivy-leaved, just changing to the rose-coloured state, and several excellent plants of double kinds, most noticeable among which were the dwarf, compact, rose-flowered Marie Lemoine, and Wilhelm Pfitzer, a fine scarlet. Several of the best specimens, however, had been sent to the Hamburg Exhibition. A third division contained Coleuses, and one plant of Her Majesty was grafted with twenty-eight varieties. In this division, too, was Iresine Lindeni, which, if it prove hardy enough, will, from its richly-coloured foliage, prove valuable for bedding.

The Fern houses contained a very good general collection, among which, though not large, were several examples of the lovely Adiantum farleyense, Selaginellas of various kinds, and a number of seedling Ferns. Azaleas of the leading kinds, in 48-sized pots, nearly occupied one house, and a pit as well; and a house 90 feet by 24 feet contained Vines for planting, most of which, however, with the exception of those forming an archway over the path, had been turned out of doors to ripen their canes. The spent hops are here largely employed for plunging the pots in.

Crossing the road to another piece of ground, we found this chiefly occupied with fruit trees, seedling Pelargoniums, which had passed the winter out of doors with slight protection, and a variety of climbers in pots. Mr. Boston now always keeps a considerable number in pots, so as to supply those who require climbers at times unsuitable for the removal of plants in the ground.

The neatness of the place, and the order which everywhere prevails, reflect the highest credit on Mr. Boston's management. As a proof of his consideration for the men, of whom he has about seventy under him, it may be mentioned that he has established a library, from which they are allowed to take books for perusal at their homes.

WHO IS TO BLAME?

In reply to the queries of "C. C. E.," page 207, there is no doubt of some misrepresentations being made from time to time in seed catalogues of new introductions, but as to Laxton's Supreme Pea and Lemaitre's [Lenormand's?] Cauliflower, I am prepared to say that they have in no way been misrepresented.

In the first instance, I have not only seen the representation of the Pea, but grown the Pea itself this season, and I can say it is really grand. Having grown Peas extensively for many years, I have not seen any sort to equal it as a second-crop kind. I gave it a fair trial with Laxton's Prolific and Dickson's Favourite. I did not go to any extreme in preparing the ground for the seed, nothing more than usual, and the three sorts were treated alike. Knowing that Dickson's Favourite and Laxton's Prolific are really two good kinds of Peas, I considered if Laxton's Supreme should excel either of the other two when treated in the same way, it then must be a first-class Pea, and I am glad to say it has turned out so with me. The result was quite the reverse of "C. C. E.'s," as the stem did not exceed 5 feet in height, and began to pod within 10 inches of the ground, and the whole line was completely covered with beautiful, green, well-formed pods, and for many hundreds opened I counted in each pod from nine to fourteen well-formed Peas. I can, therefore, affirm that it is quite equal to the description given of it.

In the second instance, I have not been disappointed with

the Cauliflower, as it has proved itself an invaluable kind with me, for I find that many more plants can be planted in a given space than can be done with the larger-growing kinds; it comes in much sooner, preserves its compactness much longer, and does not suffer so much as the taller kinds do from the weather.

"Who is to blame" in these two instances is rather hard for one to determine, as it not unfrequently happens that the cry may come from where the fault originates, for this reason—many persons are often too fond of giving rather much attention to new introductions of seeds and plants, which ends in disappointment, and then a hasty conclusion is arrived at, that the seeds or plants are worthless and too dear. To those who may be so disappointed I would recommend the old maxim of "Try again." If gardeners were to manifest a reluctance to try new introductions of seeds, &c., as is said by "C. C. E.," they would soon retrograde, and many fine varieties would lie in oblivion.—JOHN BOYLE, *Narrow Water Castle Gardens, Co. Down, Ireland.*

"C. C. E." rather runs down Laxton's Supreme Pea; certainly it attains a greater height than is stated in any catalogue, but taking its bearing qualities and flavour into consideration, it is a very desirable variety. This spring I sowed half a pint of the seed alongside of Veitch's Perfection, Wonderful, Ne Plus Ultra, and other first-class sorts, but taking everything into consideration, it yielded more and lasted longer in gathering than any other variety I grew. I had about thirty-two rows of different kinds across one-half of the garden. Its height did not exceed 4½ feet, but the pods were produced in such profusion, that to keep the haulm from breaking down, my men ran three rows of tar cord on each side. I must confess I never counted fourteen Peas in a pod, but there were from eight to ten or twelve in most of the pods. Everyone who saw it in bearing asked me its name. As for flavour, the first time a dish was gathered for the room table, my employer said, "What Peas had we in to-day, Bowlby?" I said, "Laxton's Supreme." His answer was, "I thought it either was a fresh sort, or else the cook had them prepared in a fresh way." It certainly must prove an acquisition where flavour, colour, and bearing are taken into consideration. It must not be supposed that a Pea will keep to its stated height; ground, manure, climate, and the difference of seasons have all to be considered. As with other new subjects, there will always be found some one to depreciate them, even in the face of competent judges, and after full experiment. I think Messrs. Carter would not willingly impose an article upon the public without giving it a fair trial, or having judgment pronounced in its favour.—JOHN BOWLBY.

I BOUGHT a sealed packet of Laxton's Supreme Pea, and sowed the seed in a part of the garden that was considered the best in all respects; it grew higher than my head (I am 6 feet), and the pods were no larger than those of Ne Plus Ultra. In short, you could not distinguish one from the other, except we fancied Ne Plus Ultra had the finer flavour.—H. A., *Prestwich, Manchester.*

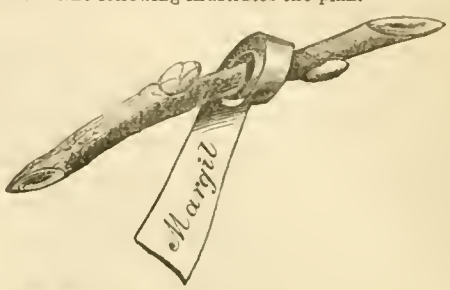
POTATO-GROWING EXTRAORDINARY.

THE Rev. B. Glazebrook, who last year succeeded in growing two crops of Potatoes in the same ground in his garden at Bodmin, fifty miles eastward of Penzance, and not the best aspect—sloping to the north—has this year, by the simple process of intercropping, thus gaining time, succeeded in growing two double crops, a feat probably never before accomplished, if even attempted; whilst no larger breadth of ground was occupied than is usually taken for one crop. The process was the following:—

The first Ash-leaf Kidneys when banked, were intercropped in the furrows with Bread Fruit of middle kind. This double crop was dug *seriatim*, principally in June, banking with the soil the adjoining and forthcoming crop, and their places immediately occupied with late Potatoes. Thus no time was lost. The second double crop is now (September 4th)—a month earlier than last year—being dug, and is a fair average crop, notwithstanding the drought. Mr. Glazebrook has preserved seed and inspection specimens of the whole four products, crops, and intercrops. A row of the first intercrop, 25 feet long produced when weighed 6½ lbs. of Potatoes. A little additional manure was used when the Potatoes were tilled. The above simple process is likely, if properly carried out, to be many a shilling, if not crown, in a cottager's way, with his limited plot of ground. —(*Western Morning News.*)

LABELS FOR FRUIT TREES.

ONE of the most interesting features of fruit-growing is to have the name. One of the simplest and best methods is writing with a common lead pencil on a piece of zinc. We have some which have been in use ten years, and the writing is blacker and plainer than when first done; indeed it can be scarcely traced when first written. A triangular piece is used, and the narrow end coiled once or twice round a branch; as the girth increases the zinc opens. If it do happen to get tight, a moment soon corrects it. The following illustrates the plan.



—(*American Gardener's Monthly.*)

THE LADY-BIRD.

WHILE many conflicting opinions are going the round of the gardening and other papers as to the cause of such myriads of this pretty Coccinella so suddenly visiting our gardens and fields, and whether we are to consider them as enemies to our crops or as enemies to the aphides, I am glad to be able to give some quite conclusive evidence respecting the great good they have done by their visit. Although I have not actually seen the lady-bird eating aphides, those trees which were laden with them were after its appearance suddenly cleared of the destroyers, while other trees which were healthy and free from green fly, were also free from lady-birds. Now, if the aphides were not destroyed by the lady-birds, their sudden disappearance is a mystery. However, I have further evidence in favour of the lady-bird being an aphis destroyer. I had a large old plant of Franciscea angustifolia covered with mealy bug, and after leaving it out of doors for a few hours it was invaded by lady-birds, which cleared off every mealy bug. Of this I am certain, for I saw the lady-birds eating the mealy bugs; and after the bulk of these were consumed, it was curious to see the rapidity with which the lady-birds travelled over every leaf and branch in search of more. Finding none, they gradually left the plant. —THOMAS RECORD, *Hawkhurst.*

NOTES AND GLEANINGS.

IT was stated by one of our contemporaries the week before last that our notice of the late Mr. ROBERT THOMPSON was written by his son. It is but right to that gentleman for us to say that no portion of that notice was either written or dictated by him.

—— AN Irish contemporary has thrown out a suggestion that the ROYAL HORTICULTURAL SOCIETIES OF LONDON AND DUBLIN should unite in holding a Great International Exhibition next year in the latter city. The notion is a praiseworthy one, but we are afraid there are difficulties in the way which will frustrate so good an intention. First of all, there are the physical difficulties of those four hours of sea between Holyhead and Kingstown; the many changes that would necessarily have to take place between such towns as London, Manchester, and even Liverpool, to say nothing of more out-of-the-way localities. There have been attempts to hold such International Exhibitions in Edinburgh, and although there is no break in the railway communication between England and Scotland, these Edinburgh exhibitions are practically Scotch, and only international in name. It would be the same if the London and Dublin Societies were to combine; the result would be virtually an Irish exhibition. However, it is a

matter for exhibitors to determine. If our great nurserymen and amateur exhibitors will take their collections a sea voyage to Dublin, there is no reason why the exhibition should not be held; but in that case the Royal Horticultural Society of Dublin might as well do the thing single-handed. The distance from London to Paris is not nearly so great as from London to Dublin, and the facility for transmission of goods is as great between the one place as the other; yet notwithstanding the attractions of the great Paris Exhibition of 1867, how few English horticulturists took their collections there. We think the Scotch and Irish Societies would confer greater benefits by holding country meetings in various parts of Scotland and Ireland, as the English Royal Horticultural Society is doing in England.

—— At the meeting of the Royal Horticultural Society, to be held on October 5th, the following prizes will be offered—viz., by W. Wilson Saunders, Esq., F.R.S., for collections of Edible and Poisonous Fungi, to be tastefully set up, and, as far as possible, correctly and conspicuously named, £5, £3, and £2.: by Messrs. J. & C. Lee, for the best three bunches of Madresfield Court Black Muscat Grape, £5.: by the Society for the following kinds of Grapes—3 bunches of Chasselas Musqué, £1 and 10*s*.; 3 bunches of Muscat Hamburgh, £1 and 10*s*.; 3 bunches of Frankenthal or Hamburgh, £1 and 10*s*.; 3 bunches of White Muscat of Alexandria, £1 and 10*s*.; 3 bunches of Alicante, £1 and 10*s*.; 3 bunches of any new or recent variety, £1 and 10*s*.; and for the best collection, named, £2 10*s*. The competition for the whole of these prizes is open to all comers.

—— The widow of Mr. Henry C. Ogle, who for many years filled the position of head gardener to the late Earl of Abergavenny, of Eridge Castle, near Tunbridge Wells, is in greatly reduced circumstances. She is at present the lessee of a lodging-house, in a fashionable watering place in Sussex, and unless a sum of money to the amount of nearly £100 be almost immediately forthcoming, she will be compelled to part with her furniture at a sacrifice and with it her only chance of for the future obtaining a living for herself. Messrs. Whitfield & Co., Bankers, Tunbridge Wells, have kindly consented (through their manager) to receive the same. Mr. Cox, Redleaf, Penshurst, Kent, has permitted reference to him as to the truthfulness of the facts.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The manure heap should now be occasionally thrown over and mixed, to bring it into a good state to wheel on the land; if the liquid which runs from it can be directed to a receptacle at hand, and occasionally thrown over the heap, it will be found of great advantage in enriching the manure and hastening decomposition. Trenching must be proceeded with as time will permit. To those who have very light land, and have their Turnips and other crops of the Cabbage tribe affected with clubroot, I would recommend the introduction at this season of some hot newly-slacked lime a few inches below the surface; this, besides being a good manure for such lands, is also an effectual cure for the clubroot. Plant out immediately the main crop of spring *Cabbages*; on the first dry day after planting, fork between the plants; if this be occasionally done there will be no necessity for earthing-up, as the plants, if not put too close together, will grow short and stocky. Attend to the earthing-up of *Celery* likely to be wanted for use soon, keeping it closely soiled, so as to have it well blanched. Keep the late crop well supplied with manure water while growing weather continues. *Cauliflowers* should be looked over frequently, turning down a few leaves over the heart, for these are readily spoiled by frost. Continue to tie-up *Endive* for blanching; it may also be blanched with slates or tiles, doing so saves time, but at this season tying is to be preferred. Provision should be made for protecting a quantity of *Dwarf Kidney Beans* from frost. Plant a lot of Brown Dutch or Bath Cos *Lettuce* where the plants can be protected by frames, for spring use. Transplant winter *Onions* on a warm border; let them be put in rather thickly, to allow for pulling out in the spring; of course a portion may be left in the seed bed if required, but it is preferable to transplant the whole.

FRUIT GARDEN.

Pay attention to the gathering of Apples and Pears; the late high winds have made great havoc amongst them. Espaliers, dwarf standards, and, indeed, any kind of fruit trees which exhibit more tendency to produce useless wood than that likely to furnish fruit, should be root-pruned as early in the autumn as convenient, cutting out any useless shoots at the same time, in order to expose as freely as possible to light and air the wood expected to bear fruit. Continue to dress old Strawberry beds with rich decomposed manure; it is better done at this season than in the spring. If time serve, it will be very beneficial to Peach trees to go over them and cut out the shoots which have borne fruit, but have not a terminal wood shoot. Those remaining will be benefited by the thinning, as they cannot be too open at this season. We must now begin to think of making preparations for filling up vacancies on the walls with young trees, and, perhaps, in some cases, judicious transplanting may be considered advisable. In either case the sites must be properly prepared with fresh maiden soil; if the borders have been properly formed with regard to drainage and a porous bottom, but little preparation, beyond removing a considerable portion of the old soil and supplying its place with new, will be required.

FLOWER GARDEN.

The removal of decayed flower stems, dead leaves, or anything which injures or disfigures a scene, has a surprising effect in making this department cheerful and attractive. Sweeping, rolling, &c., should be attended to in the morning, that the ground may have a tidy appearance when visited by the family. Repair any damages occasioned by the late high winds, by resticking those plants which have been blown over, and nailing-up shoots of climbers which have become detached from the walls; nothing looks so untidy as these when blown about by the wind. As frosty nights may now be expected, scarce plants which it may be desirable to secure before they are injured, should be taken up and potted at once, or carefully covered when there is the least chance of injury. Secure a good stock of cuttings of variegated Pelargoniums before the plants are injured by frost, for although these root more freely in spring than at present, such varieties as Golden Chain and Mountain of Light grow so slowly, that spring-rooted cuttings make but very poor plants by turning-out time; hence it is desirable to gain size even at the expense of the loss of a few cuttings. That cuttings taken from plants growing in the open ground are liable to damp-off in a moist, warm place is well known, and the variegated Pelargoniums are, perhaps, more so than most other plants; but persons who can command a gentle bottom heat, without keeping the atmosphere warm and moist, will experience no difficulty in striking them now. The old plants are, however, well worth wintering wherever room can be found, for these go much further at planting-out time, and cover the beds sooner with foliage and flowers than either autumn or spring-rooted cuttings; hence they should be carefully guarded from frost until the beauty of the garden is destroyed, when they should be taken up, potted, and stored for the winter in a cool dry house. Continue to put in cuttings of Hollyhocks, as these can be obtained, until there is an ample stock of rooted plants, and do not allow those that were rooted early in the season to suffer from want of pot room. Cut off the flower stems of herbaceous plants as soon as they become shabby.

GREENHOUSE AND CONSERVATORY.

Keep New Holland plants, which have been placed under glass, cool and airy, and avoid crowding, especially in the case of plants which are in a growing state; but everything must be allowed sufficient space, so that the foliage may be fairly exposed to light and air. Rather than crowd specimens together, some of the least valuable should be thrown away. To do justice to a mixed collection of plants in one house is a difficulty which too many have to contend against, for to have in the same house plants which require a temperature of 40° as a minimum, and others, for instance, Heaths, for which 40° should be the maximum temperature, with one set demanding a thorough current of air at all times, and others dying even if exposed to it for a short time, is a state of things rather puzzling to young gardeners. Polygalas, Boronias, Croweas, Dracophyllums, Pimeleas, Leschenaultias, and Gompholobiums do not like to be much exposed to cold currents at any time, and therefore they must be protected as much as possible, of course bearing in mind that over-nursing is as bad as no nursing at all. Give each plant all the room you can spare for it, and above all take care that the plant, the pot, and every part about it are perfectly clean before the plant is taken into the house. Look sharply after mildew upon Heaths, as it is sometimes very troublesome upon plants that have been growing freely in a shady situation in the open air, and are in

a rather soft state when taken in-doors; apply sulphur freely on the first appearance of the enemy.

COLD PITS.

Plants which have made their season's growth should be freely exposed to sun and air on every favourable opportunity, in order to ripen the wood well; but those still in free growth should be encouraged by every possible means while fine weather continues, keeping them rather close, guarding them carefully from cold winds, and giving a liberal supply of water at the root. If any plant requires more pot-room, let it be shifted as early as convenient, keeping the atmosphere rather moist, and watering very cautiously for some time afterwards, until the roots take hold of the fresh soil.—W. KEANE.

DOINGS OF THE LAST WEEK.

Improving Cropping Ground.—Now and further on in the season are good times for all such work. All ground that is at liberty, if deep enough, will be improved by trenching and mixing the different layers. If the soil is rather light it will be best left rough on the level; if stiff, leave it in rough ridges, that the frost and even mild air may have free access, as frost is one of the best and cheapest of pulverisers. If the ground is thin and the subsoil bad, but little of the latter should be added every season, but it should be broken up at bottom and left there, and thus it will be gradually improved. Very light sandy soil will be greatly improved both by clay and chalk. The former will render it more cohesive; the latter will make it more retentive of moisture. Quick or caustic lime is chiefly useful, when there is much rough insoluble organic matter in the soil that needs to be decomposed. Very stiff soil is greatly benefited by sand, by lime and chalk, and by burning a portion of the clay and using it as a dressing. As a mere lightener of the soil chalk is as good as lime, and merely as a mechanical agent it thus has a great effect on the produce and the ease of cultivating. When we used it with good results we have often been surprised how soon it would sink away from the surface and find its place in deeper layers; hence the importance of trenching, and mixing the layers. We have known garden soil resting on clay so stiff as to be unworkable in damp weather, and yet at from 15 to 30 feet from the surface there was a deposit of chalk, which by means of a shaft could have been raised in quantities to the surface, and would have greatly ameliorated the texture of the soil and rendered it much easier to work. When a stiff soil rests on clay it will be greatly improved by burning a piece of the subsoil every year, using prunings and rubbish for the purpose. When fairly set going but little fuel is necessary. Clay when burnt is as good and even a better lightener than sand, and in our experience does not so soon sink away from the surface. Many stems and weeds, hardly fit for the charring-heap, might be used for this purpose; but half-burned, half-charred rubbish and earth are among the best improvers of stiff soils, and come wrong to no soil if used moderately. When clay is used for light soils an inch, or from that to 2 inches, will generally be enough, and that if possible should be applied dry and in a finely-divided condition. We have known it used more freely and in a damp close condition, and for years it seemed to do harm rather than good, as whenever roots came in contact with the clay, they turned away from it and would die sooner than pierce it: hence the importance of using it in a finely-divided state.

In some cases clay may be used with great advantage as a substratum for securing a cool moist bottom. We knew a pretty flower garden on sandy soil, with a subsoil of open gravel and porous rock. In a dry season no watering would keep the plants moist, and the more water was given the more were the nutritive properties of the soil washed away, unless, indeed, manure water was used. The only chance in hot dry seasons was a copious rich mulching at the surface, and this was out of the question, as the owners liked to see the soil present a dressed fine surface, almost as smooth and fine as the surface of a dining-table—a degree of fine keeping which we always look upon as worse than waste of time and labour, as the plants have not the same chance as in soil with a rougher, more open surface. Clay was not mixed with the soil, but the soil of the beds, which were not large, was turned out between 18 and 24 inches deep, and 2 or 3 inches of clay were firmly hammered at the bottom, some rough rubble placed over it, and then the soil, and the plants have required not nearly the same amount of care and watching since. The firm damp bottom in such a case proved of great advantage to them.

KITCHEN GARDEN.

Much of the work was of a routine nature, as earthing-up Celery in the fine, dry days, planting out Cabbages, pricking out the same to be lifted as the ground becomes ready for them, planting out some of the most forward Cauliflowers in patches for hand-lights, to come into use in spring, placing nine in a square, to be thinned afterwards to four or five, and not giving them the handlights for some time yet. Besides digging the ground and firming the surface, we strewed a little drift sand on each square patch, as snails and slugs do not like to crawl over it, and the crop never looks so regular and well after it has had several fillings-up, owing to deaths and depredations. Scattered some fine ashes among the last-sown Cauliflowers, Lettuces, Radishes, &c., which will help to keep intruders at bay until washed off by the next rains, and even then wood ashes, from their saline properties, will help to keep the ground free of slugs, snails, and worms. The chief work, however, has been hoeing and forking among all crops to keep down *weeds*, and to prevent the surface caking after the rains. Where not a vestige of a weed was to be seen a short time ago, the rains soon presented us with a surface of tiny green weeds that would soon become larger if left alone. We noticed in a corner quite a mass of Groundsel, some 2 or 3 inches in height—hundreds, if not thousands, of them, the progeny of a single plant that was unnoticed before it arrived at the seeding state. How far the seeds from that plant extended it would be difficult to say. The other Sunday our coat was whitened with Thistle down that must have come from some little distance. There is no hope of keeping down weeds except by cutting them up as soon as they appear, and leaving the sun to scorch them up. It is a great waste of time and labour when other utensils besides the hoe must be brought into operation. Frequently, however, the stress of work is such, that the weeds cannot be attended to in time, and pulling up, or hand-weeding, and raking up must be resorted to at a sad outlay of time and labour. We cannot always practise what we teach, but the easiest and best way of keeping a place clean is never to let weeds grow above 1 or at most 2 inches in height.

Grubs on Cabbages.—As yet we have nearly escaped these, so destructive to fresh-planted Cabbages, but they have been very prevalent in this neighbourhood during the present season. Some tell us that they lose half their plants in a night; others that they have filled up their plantation three or four times, and still the plants go at the rate of from twenty to thirty per cent. in a night. The only sure remedy is to examine the cut-over plant, collect the fat lumpy grubs at the roots a little below the surface, and make short work with them. Watering with soot water, lime water, soapsuds, &c., will help to keep them away, and so will smearing the stems with soot and lime previously to planting, as the plants are generally cut-over close to the roots, and it is not uncommon to find three or four of these grubs at one root. We have not found such surface applications as soot or lime, or even a sprinkling of tar between the rows, of much benefit; but frequently stirring the ground annoys the grub, and strong bad scents seem to deter the perfect winged insect from depositing its eggs in the soil. A slight sprinkling of tar, even in winter, seems to help to keep them away. Putting baits of sweet Carrots, Turnips, and even split stems of Cabbages, will help, but only a little, to keep the visitors under, chiefly because of all baits nothing is so agreeable to them as a young Cabbage plant, and especially when the plant is in a languid state from being recently dibbled out. Singularly enough, we have seldom known these grubs attack the young plants in the seed bed, and when they have done so, a watering of strong lime and soot water has generally dislodged them. Neither do they so often attack plants which are tolerably well established. We have been recommended to hunt for them at night with a lanthorn, but though others may be more fortunate, we never found one, partly, no doubt, because though the grubs are large, generally from 1 to 1½ inch in length, they are of a whitish drab tint, and thus resemble the colour of most soils, and partly because we have doubts if they ever show themselves much at the surface, as during the whole of their long existence they seldom appear above ground, except in the winged state, and even then do most of their work at night, instead of during the day.

Besides catching the grubs as stated above, but too often after they had done the mischief, we have in extreme cases resorted to the following plan, as even the largest bed of seedlings would soon be exhausted in filling up, when the grubs had

taken possession of the ground. We have simply let the plantation alone, killing the grubs as they killed the plants, and inserted Lettuces, spare Broccoli, Cauliflowers, &c., for a time in their places, to entice the grubs. We have then carefully turned over a piece of ground, and examined it pretty carefully to the depth of 4 inches, looking after grubs. We then added a dressing of soot and lime, and some very rotten dung, and pointed and stirred all together for a depth of 3 inches, and in this turned out the young Cabbage plants, 3 or 4 inches apart; here they grew vigorously for two or three weeks. Meanwhile, after all the Cabbage ground had been well examined, and slightly turned over repeatedly, shallow drills were drawn, the Cabbages turned out with balls by the help of a trowel, and planted just deep enough to cover the roots, and a little hillock of soot and lime was placed round each plant—that is, fully as much as could be held between the thumb and two fingers. We have then seldom lost a plant. The operation is based on what little we have observed of the habits and tastes of the grub.

It may be interesting to some to state that the worst form of Cabbage grub is the larva of the cockchafer, which insect, unlike many others, is destructive in its winged as well as in its grub state, feeding as a beetle voraciously on the leaves of trees, &c., at night. It deposits its whitish eggs in the soil, and these soon hatch into grubs, which, as stated above, are about 1½ inch in length, have a whitish buff skin, and seem little except a mass of fat beneath it. The larvæ of the larger crane flies resemble this grub considerably, but generally they have no feet. They are equally destructive beneath the surface to the roots and stems of vegetation. But for crows, blackbirds, and thrushes, who pounce on these grubs greedily, our pastures would often resemble a bare turned-up field. The worst evil is that the larvæ of the cockchafer exist in the grub state several years, some naturalists say five, and then they go down to the depth of 4 or 5 feet, change into the chrysalis state, and emerge next spring as the perfect beetle. The only time in which they do not act antagonistically to our labours is whilst quiescent in the chrysalis state. On the other hand, the daddy-longlegs is perfectly innocent in its winged state, living merely, it would seem, for the purpose of depositing its eggs. We are more surprised at the abundance of the grubs of the cockchafer than of those of the daddy-longlegs, as, though others have seen myriads of cockchafers in the evenings flying about in a seemingly blind stupid way, we have never seen many of them; whilst of the daddy-longlegs we often could have swept up a peck from flagstones in a cool morning in autumn.

But for the unpleasant scent in a garden, we have reason to believe that rags steeped in melted sulphur and in tar, suspended from a stick or string, would deter the females from depositing eggs, and that would be going to the fountain head for a remedy.

By all accounts there will be some difficulty in making an early plantation of Cabbages this season. We are so apt to jump at conclusions as to cause and effect, or we would say that a sprinkling of tar over our Celery ground before it was trenched across preparatory for Onions, might be a reason why not an Onion was touched by any sort of grub, and why the Cabbages succeeding them are unmeddled with. We have had no chance of trying it, but some correspondents may be right in stating that weak ammoniacal liquor from the gas works will keep all such grubs away. For years we have found that when almost everything in a garden was left untouched, the young planted-out Cabbages at this season were sure to be attacked. We know of numbers of cases in which cottage gardeners have exhausted their seed beds in filling up, and still have almost empty ground. If, therefore, any of our readers can supplement the above remarks with a better mode of cure or prevention, they will confer a public benefit, and more especially on the holders of small gardens, to whom an early Cabbage is of importance.

FRUIT GARDEN.

Attend to preparing for planting, gathering fruit, &c., as detailed in previous notices. In cold, stiff soils above clay, and that again above chalk, we find that fruit is a week or two later than it is on darker and lighter soils. The exposure and the altitude have also an effect in these matters. In a sunny season we have found Strawberries eight days earlier on a bank steeply sloping to the south, than immediately in front of the bank on the level, whilst in a cloudy, dull season there would scarcely be any difference. Little as yet has been done as respects the colour of the soil, and husbanding and storing the heat supplied by the sun in securing early productions. Were Strawberries and even cordons of trees trained within a foot of a dark firm surface, and then protection given to prevent the radiation of heat at night, fruit could be greatly forwarded, provided we could make sure of sun heat, and could keep it when obtained. In dull weather the darker surface would be of no advantage.

We gave different manure waters, as soot, cow dung, &c., to Strawberry plants in pots, as it is yet rather early to begin to ripen off the buds, especially in our case. To save pots, we shall plant out a lot of potted runners, and raise them in the spring when wanted. Gathered fruit in fine days. Low bushes and pyramids have suffered but little from the tempestuous wind.

ORNAMENTAL DEPARTMENT.

The few sunny days have wrought a charm in the flower beds; but for depredators interfering with lines of Lobelia and Verbena, and the winds that still prevail, sending down the leaves from the trees, we would seem to have a second summer, Not the cold, but the high winds, have made the foliage of trees brown and rusty unusually early, merely from the branches and leaves being brought so rudely in contact with each other. Several parts of the grounds have needed sweeping every day, and that for a month or two will be a ceaseless operation. The greatest drawback, however, is, that the finest floral display is deprived of much of its beauty when surrounded by falling and driving leaves. Walks treated as described some time ago have needed nothing since—scarcely even rolling after rain, as they are smooth enough without it.

Proceeded with sheltering the more tender plants in pots, making cuttings of bedding plants which, with the exception of Calceolarias, we hope soon to finish, but the Calceolarias we shall leave until the end of October. With all our Tricolor Pelargoniums, &c., nothing will take the place of the yellow Calceolaria; and this season, dry weather and all, they have done well, and though shaken by the late tempests, they are now coming into full bloom again. We have put in some more cuttings of Verbenas, and placed them in a frame where they would have the slightest bottom heat; all else as yet has had no help but a cold pit or the open air. Boxes when to be had are preferable to pots. Last season we struck lots of Scarlet Pelargoniums, &c., in 60-sized or 4-inch pots, from six to nine cuttings in a pot, and they stood and turned out well. With us cuttings or plants in single pots for bedding are not to be thought of in winter; all must stand thickly, from 1 to 2 inches apart, until the spring. Proceeded with repotting Pelargoniums, Primulas, Cinerarias, Coleuses, Ferns, &c. We have several times noticed the mode of repotting old Pelargoniums, reducing the roots, and placing them in smaller pots, when the cut-in heads have broken into fresh growth.—R. F.

COVENT GARDEN MARKET.—September 29.

We have had a very poor attendance of buyers during the past week, and business generally has declined. There have been large arrivals of Grapes from Portugal and Spain; they are now offered in good condition at very low prices, the best not realising above 1s. per lb. Hothouse Grapes are also plentiful. Peaches and Nectarines are nearly over.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	1	0	to 1	6	Melons	each	2	0	to 5	0
Apricots	doz.	0	0	0	0	Nectarines	doz.	4	0	8	0
Cherries	lb.	0	0	0	0	Oranges	100	10	0	14	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	8	0	15	0
Currants	½ sieve	0	0	0	0	Pears (dessert)	doz.	2	0	3	0
Black	do.	0	0	0	0	Pine Apples	lb.	3	0	6	0
Figs	doz.	2	0	4	0	Plums	½ sieve	3	6	5	0
Filberts	lb.	0	6	1	0	Quinces	doz.	1	6	2	6
Cobs	lb.	0	6	0	9	Raspberries	lb.	0	0	0	0
Gooseberries	quart	0	0	0	0	Strawberries	lb.	0	0	0	0
Grapes, Hothouse	lb.	2	0	5	0	Walnuts	bushel	10	0	16	0
Lemons	100	10	0	16	0	do.	100	1	0	2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	3	0	to 6	0	Leeks	bunch	0	4	to 0	6
Asparagus	100	0	0	0	0	Lettuce	score	1	0	2	0
Beans, Kidney	½ sieve	3	0	4	0	Mushrooms	pottle	1	0	2	0
Beet, Red	doz.	2	0	3	0	Mustd.& Cress, punnet		0	2	0	3
Broccoli	bundle	1	0	0	0	Onions	doz. bunches	4	0	6	0
Brus. Sprouts	½ sieve	3	0	0	0	Parsley	sieve	3	0	0	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	9	1	0
Capsicums	100	2	0	2	6	Peas	quart	1	0	1	6
Carrots	bunch	0	8	1	0	Potatoes	bushel	2	6	4	0
Cauliflower	doz.	3	0	6	0	Kidney	ditto	3	6	5	0
Celery	bundle	1	6	2	0	Radishes	doz. bunches	1	0	0	0
Cucumbers	each	0	6	1	0	Rhubarb	bundle	0	0	0	6
Endive	doz.	2	0	0	0	Shallots	lb.	0	0	0	6
Fennel	bunch	0	3	0	0	Spinach	bushel	2	0	3	0
Garlic	lb.	0	8	0	0	Tomatoes	doz.	0	9	1	6
Herbs	bunch	0	3	0	0	Turnips	bunch	0	4	0	6
Horseradish	bundle	3	0	5	0	Veget. Marrows	doz.	1	0	2	8

TRADE CATALOGUES RECEIVED.

Louis Van Houtte, Ghent, Belgium.—*Catalogue of Azaleas, Camellias, Rhododendrons, Liliums, &c.*

Gautreau père, Brie Comte-Robert, Seine-et-Marne.—*Catalogue des Meilleures varietés de Roses.*

F. & A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Catalogue of Roses and Hollyhocks.*

William Masters, Exotic and Vanxhall Nurseries, Canterbury.—*Hortus Durovernensis, a Catalogue of Useful and Ornamental Plants, Trees, and Shrubs.*

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

Notice to Quit Service (*G. S.*).—As you receive your wages weekly, you are not entitled to a month's notice.

Exotic Flowering and Fine-foliaged Plants (*Secretary*).—An exotic Fern ought not to be exhibited in a class so restricted. A species of the genus Begonia might be exhibited in the class, for the restrictive words "excluding florist's flowers," have not yet been applied even to varieties of the Begonia.

Bulbs from South America (*Rev. J. W. B.*).—We believe them to be from the stem of Dioscorea alata. If so, the root is often 3 feet long and weighs 30 lbs. It is not even half-hardy here. We did not intend to be curt in our former reply, but to have noticed the statement at all would needlessly arouse attention; and even supposing our correspondent's conclusion correct, the error in chronology would no more effect the volume's basis of truth than its error in astronomy.

Sulphate of Iron (*S. S.*).—This, commonly called green vitriol, is only beneficial as a manure when applied to soils containing a large proportion of chalk, and then only for some crops. It is useful to mix with fermenting stable manure, to detain, or fix, as it is termed, the ammonia.

Garden Produce (*W. B.*).—You must see or correspond with some of the salesmen in Covent Garden Market. A half-sieve contains three and a half imperial gallons.

Painting Glass for Shade (*T.*).—We have tried painting the glass with a thin coat of white lead paint, and we find it answers admirably for a fernery. The glass should be thoroughly dry, and as the paint is put on dash a painter's dust brush upon it perpendicularly, so as to give it a frosted appearance. Our paint was put on outside. We have no experience of it inside, and fear it would peel off from the continual condensation of moisture on the glass. The painting would not stop the leakage. If it be from the laps they may be puttied up, but we are of opinion that the putty is off in many places. All that is loose should be replaced after giving a coat of paint. Only one coat of paint must be given the glass, and we would not paint until next March.

Limnanthes Douglasii for Spring Blooming (*T., No. 2*).—The summer-sown plants now in flower are not likely to survive the winter. A sowing ought to have been made in the middle of September, but you may yet sow in the same bed, planting out the present occupants. If these fail the seedlings may survive, and if so will flower in May. It is one of the best annuals for spring gardening.

Wintering Fig Trees in Pots (*Idem*).—The trees in pots will do well during the winter in a dry cellar cold enough to prevent growth. The soil ought to be kept dry. It is enough to merely exclude frost. Remove them to the orchard house in April.

Golden Feather Pyrethrum (*Idem*).—It is quite hardy, and may be left in the beds all winter. In wet soils it is liable to make late growths, and suffer from severe weather. A sandy well-drained soil is best. (*An Amateur*).—If your soil is not very wet, move the plants this autumn, with good balls; plant them where wanted, and they will be better than those wintered in frames, and planted out in April. The flower stems ought to be removed as they appear.

Cuttings of Imperial Blue Pansy (*An Amateur*).—The cuttings inserted in July will now be well rooted, and ought at once to be planted out where they are to bloom, which will be a better position than under a north wall. If not planted now, they should be put in a bed in an open sunny situation, and be moved with balls to their blooming quarters in March.

Sowing Virginian Stock for Spring Blooming (*Idem*).—To have it in flower early in spring it should be sown by the middle of September, but it may yet be sown, and will flower at the end of April or in May, according to the earliness or lateness of the spring.

Planting Bulbs in the Same Beds Successively (*Idem*).—You may plant all kinds of bulbs in the beds they previously occupied. It is unnecessary to take out any of the soil; give a liberal dressing of leaf soil and manure, and mix it well with the ground.

Wintering Bedding Pelargoniums (*Idem*).—Except in mild winters they cannot be wintered in unprotected cold frames. The sides of the frames ought to be banked-up with ashes to exclude frost, and in addition to a covering of mats a covering of dry straw in very severe weather should be placed over the lights. This ought to remain day and night till a general thaw. The plants will not be injured by the darkness as long as they do not grow. In mild weather give all the air possible, and do not water nor allow them to have rain. The plants ought to be potted in dry soil, but a better plan is to place them in the frame, cover their roots with dry soil, and not water before March. Pick off all yellow and dead leaves as they appear, and any shoots that decay cut off close to the living wood but not into it. Select a dry and warm situation.—G. A.

Transplanting Roses (*C. R. H.*).—The best time to take them up and replant will be the beginning of November. Efficient drainage is essential, but mildew is more a consequence of want of water in dry weather than anything else. The ground being clayey we would trench it, working in a liberal quantity of manure and ashes. After planting, mulch the surface with littery manure.

Propagating Roses by Cuttings (*C. T.*).—The best time to strike Rose cuttings out of doors is the end of September, but now will answer very well. They should be placed in a sheltered situation, as a north border, and if you use a soil composed of equal parts of sandy loam, leaf mould, and sand well mixed together, it could not be better. Six inches thick will be sufficient.

Roses of the Last Two Years.—"'*Devoniensis*' wishes me to give my opinion of recently imported Roses, and especially of those of the last two years. It has been a bad season for novelties on weak stocks; indeed it has been a trying season. I do not like to say much about new Roses till I have them upon strong stocks, and have had two or three seasons' trial of them, because I have known Roses that I now appreciate do badly when on weak stocks. The best of later years, and good, are:—Alfred Colomb, Marie Baumann, Baroness Rothschild, Lady Suffield, Felix Genero, and Annie Wood, new out and beautiful; and the two ornamental Roses, Dr. Jamain and Baronne de Maynard. The whole of the above I can recommend. As ornamental Roses (both *presque pleine*). I will name as good growers, handsome, and free bloomers, Madame Barriott and President Willermoz. The plants (two each), of these were weak and did not grow well, but they may be pronounced promising—namely, François Treyve, Monsieur Nomao, and Mdlle. Marie Rady. The last, I should say, would on strong stocks be superior, but not, I fear, very distinct. The following I have rejected—namely, Charles Verdier, not a free bloomer; Charles Rouillard, bad colour and flimsy—it is not so good as Comte de Nanteuil or Felix Genero; Paul Verdier, beautiful, but not a late bloomer; Madame Morean, much given to mildew; and Mdlle. Jeanne Marix, a hard opener, and not a late bloomer. Reine du Midi is also a fine Rose, but like La Reine, its parent, it is as hard as a cricket ball. I shall keep it on one year more, though I had only one good bloom from ten plants. Adrienne Christophle is beautiful and distinct. Clotilde Rolland I saw in bud at Blandford; it promised to be good. I saw the Duke of Edinburgh and Baron Haussmann in Mr. Keynes's boxes at Blandford; they were good, and his best novelties. The first, I shall buy. I have increased my stock of Fisher Holmes; it is fine, and better than the Duke of Wellington and Horace Vernet. Horace Vernet and Thorin have not yet been full enough.—W. F. Radclyffe."

Blairii Rose not Blooming (*A. Roche*).—It is a fine Hybrid China, especially as a pillar Rose. The reason it does not bloom is, you prune it too closely. All that is required is to thin out the old shoots, and shorten a little those to be retained.

Value of Turf and Cutting (*A. G.*).—Good turf may be had in most places at 3*d.* per square yard, or 4*d.* if cut and loaded, but the price varies with the locality. For cutting and laying 1½*d.* is the usual price per square yard, and for cutting and loading only ½*d.* per square yard. Two men will cut from 150 to 200 square yards per day, but the ground makes a difference. Sometimes they do more, often less. For what you describe the price per hundred ought not to exceed 10*s.* for the turf and cutting. We have known, however, 6*d.* per yard paid.

Plants for Pot Culture (*C. M.*).—Lilium candidum flore-pleno, L. tigrinum, and Dielytra spectabilis are suitable for pot culture. They succeed equally well in pots or planted out. Dielytra spectabilis is one of the best of plants for a greenhouse or gentle forcing.

Wintering Arctotis reptans (*Tig*).—It should be kept near the glass in a well-ventilated house from which frost is excluded. It ought to be potted in poor sandy loam and a little peat, have good drainage, and no more water than is necessary to keep the plant alive. Cuttings struck in August are more easily wintered than older plants or those taken up from the open ground and potted. They ought to be established in pots before winter.

Amy Hogg Pelargonium (*Idem*).—It succeeds well in a bed, and, like all the Nosegays, does tolerably well in smoky gardens.

Propagating Golden Arabis (*Idem*).—We presume yours is the smooth glossy-leaved kind, Arabis lucida variegata. In some soils it is very slow-growing, but with us in well-drained rather strong soil it succeeds, but not nearly so well as the others; and the best plants we have seen of it were grown on a gravelly subsoil overlaid by about 15 inches of sandy loam. Leaf soil was used for enriching the ground, and the plants were propagated in autumn by division, any unrooted divisions being placed in sandy soil under a hand-light. We prefer taking cuttings or crowns, with or without roots, in August, and insert them in sandy soil under a hand-glass, keeping them moist, close, and shaded from bright sun, and admitting air after they begin to grow. The plants are fit to plant out in autumn. March is likewise a good time for dividing the plants, and putting in rootless divisions under hand-glasses. Side by side with the other variegated Arabises it will in some places only drag on a miserable existence, whilst the others grow only too rapidly.

Removing a Wellingtonia (*Constant Reader*).—Transplanting this tree is attended with great uncertainty after the specimen has been two years or more in one place, and as yours has been six years where it is, we cannot promise success; but from inquiries we have made, it would appear that April or early in September are the best times. Under present circumstances, therefore, we would advise you to let the tree remain till late in spring. An experienced planter, whom we consulted about removing trees and shrubs, stated that in his opinion the Wellingtonia is about the worst to manage, with the exception of Evergreen Oaks. We have always preferred small plants of both when we have had to plant any.

Neglected Vine (*Anxious*).—The Grape is too young to decide, but it looks like a White Muscadine or Sweetwater, either of which will answer in the position and circumstances. As the Vine produces so much wood, thin it out well, leaving enough of the strongest wood, and let that be well ripened for next season's bearing. We do not see, from what you say, any reason for cutting the Vine down. Better try it another year, and then if it fail you could plant afresh.

GRAFTING VINES (*J. W.*).—Graft the Vines by all means; all the White kinds will do well on them, such as Muscats and Foster's White Seedling.

VINE LEAVES SPOTTED (*Mrs. Heathcote*).—The Vine leaves are blotched and scalded. The remedy is either to give air all night at the top of the house, or to give air early in the morning before the sun strikes on the house.

VINE BORDER FERMENTING (*An Amateur*).—You must not plant Vines until the heat of the soil, arising from the turf fermenting, fall to 75° or 80°. Watering such turfy matter, unless you inundate it, would be of questionable benefit. Better turn part of the material out until it cool.

FRUITING VINES IN POTS (*Reader*).—Between repotting now and repotting next March, there is no comparison; repot at once by all means, merely disentangling the outside roots a little, and potting firmly. If the Vines are in good-sized pots—say 15 inches or more in diameter, we would remove the surface soil carefully, replace it with rich compost, and not repot at all. We would even place a rim on the pot in preference to repotting. We do not think that you need despair of the Frontignan Vine.

VINES, STRAWBERRIES, &c. (*A Subscriber*).—If you refer to our advertising columns you will see where they can be obtained. It would be unfair for us to select tradesmen. Messrs. Webber, Covent Garden Market, could give you information relative to the sale of fruit.

FRONTIGNAN GRAPES SHANKING (*Reader*).—Frontignan Grapes are more liable to shank than most others, and occasionally shanking appears in its worst form—viz, the main stalk of the bunch withering. We have not noticed the peculiarities you name when the Vines are grown in a heated border; the foliage does not brown, nor do the Grapes shank. We think the Frontignan Vine requires a warmer, drier, and poorer soil than many other varieties; a large proportion of the soil of the border ought to be stones so as to imitate as nearly as possible the soil required by all Vines, and especially this class of them—namely, a free, open soil, and warm, stony, or rocky ground. In our climate we have not sufficient heat to ripen the wood properly, and the roots in outside borders have not the warmth necessary for a healthy action. It is well to encourage more foliage than we would otherwise do, and by that means keep up root action; but the Vine ought to have as great a temperature for its roots as its branches.

GRAFTING VINES (*A part Subscriber*).—To all your questions we answer No.

SEEDLING PEAR (*W. T. C.*).—Unfortunately the Pears were so bruised and decayed we could not form a correct judgment on them. We found nutsinted by the accompanying decay a little bit which was very nice, but not sufficient to form a decided opinion.

SHOW GOOSEBERRIES (*An Operative*).—Three of the best of each colour are—*Red:* Guido, London, and Hopley's Companion. *White:* Sheba's Queen, Tallyho, and Wandering Girl. *Green:* Conquering Hero, Thumper, and Wistaston Hero. *Yellow:* Husbandman, Broom Girl, and Marigold. If you wish for size only, then London, Thumper, Hero of the Nile, and Leader. They should have a situation not shaded by trees or buildings. The best soil is a rather strong loam, and if from fresh turf it could not be better. The ground ought to be trenched 2 feet deep. Nothing is better than stable manure, or that of horses, cows, or pigs well reduced; it should be applied in autumn before planting, mixing it well with the soil.

TWIN CUCUMBERS (*G. R. C. C.*).—A fine pair, but we have seen the same occurrence several times. The cause is the union of two ovaries.

PLANTING MUSHROOM SPAWN—STRAWBERRIES (*The Hermitage*).—Your planting the 2-inch-square pieces of Mushroom spawn in a Cucumber bed will succeed according to the state of the bed. Placing the spawn 3 inches from the surface is all right enough if that distance brings you near the dung of the bed. As stated lately, we have planted spawn in the open ground and had fair success, but if we had used the Cucumber bed after the Cucumbers were gone, we would have taken off the soil, turned up the dung a little, beat it down, inserted the spawn at double the distance you have done, covered with 2 inches of soil, and beat down, and if fresh all the better. If there were a little heat left in the bed we should expect to gather in two months. If the soil were somewhat damp, little or no watering would be needed in winter. The ground for your first-class Strawberries we would trench and manure heavily, incorporating the manure with the soil. Turn out the strong plants in rows 15 inches apart, and 2 feet from row to row, and mulch the ground after planting.

HEATING A CONSERVATORY FROM A KITCHEN BOILER (*T. H. T.*).—There will be no difficulty in taking a side flow and return pipe to heat your conservatory, situated as it is, the kitchen boiler now supplying hot water to the top of the house. Of course, the more piping you heat the greater will be the demand on the boiler, but there will be no likelihood of a deficiency of heat at the top of the mansion. With plenty of fire and command in the boiler, you might take pipes over every separate storey if you liked. At first you may have to curtail the flow to the top of the mansion to make the water flow freely into the pipes in the conservatory, but that is not often required. Hot water is sometimes skittish and peculiar. We have had half a dozen pipes proceeding from the same level in an open cistern, and some of these would not take their right quantity of heat unless some more fortunate pipes were plugged a little, so as to make the flow all over more equal. As to your proposed house and pit, more especially as you mean to plant Vines, and these houses are to be lean-to's, we would advise you to make the height at back 10 feet instead of 8 feet, and have them from 5 to 6 feet in front, and 10 feet in width. This will enable you to have a platform on each side of a path down the middle of the plant house, and the same with one or two pits in the other, and building all above ground will give you most pleasure. For such a house, hot water would be best, but flues would do very well. It would, however, be best to have a flue for each house. In the propagating part take the flue round the house under the floor level, so as to be in the centre of the pit, above which have a chamber covered over, and slides in the chamber to let the heat into the air of the house. With one pit and the flue exposed on the other side, you would not need these hot-air openings. The best trees we know of for the seaside are the Pinus Pinaster, the Evergreen Oak, and the Maple; and the best climbers the Virginian Creeper, Ivy, and Clematis.

HEATING A GREENHOUSE (*Heron*).—The proposed arrangements will answer if your Ferns are not tender, and you do not wish your warm greenhouse to be above from 45° to 50° in severe weather. The piping in the cool greenhouse will enable you to exclude frost in severe weather, and to keep the house at from 34° to 40°. You will perceive that you will only have one flow and one return through the Fern house, and when all the pipes are at work, the return will be rather cool before the water reaches there. We approve of the stoppage at H, between the two houses, but to make sure we would recommend you to have, by a T-joint, two flows in the Fern house as far as the partition, and if you wish for a good heat in the warm greenhouse, we would have two flows and one return as far as H. For your purpose a small conical or saddle-back boiler would be best. The terminal saddle-back is better than the common one. A boiler costing from 50*s.* to 60*s.* ought to suit your purpose.

ARNOTT'S STOVE (*Constant Subscriber*).—A moveable iron stove with a square top for water, would best suit your purpose—say, a stove 1 foot square, 2 feet high, with fire-brick round the fireplace inside. The square top will do for a vessel of water. A small brick stove would answer better, but then it would be fixed. See what was stated to correspondents lately as to smoke-pipes and their position. You might have a brick stove fed from the outside like the furnace for a flue, but only a smoke-pipe from it instead of a flue. Much has lately been said on regulating draught from the ash-pit door.

PLANT CASE (*I. D.*).—We have no doubt that you would succeed as well with the larger case as with the smaller one, and be as successful with cuttings as you have been with seeds. There will be no doubt of your succeeding with cuttings sent by post, as advertised by dealers in our columns; the post has an advantage in quickness of transit. Any small Ferns, as the Adiantums or Maiden-hair, and the smaller of the hardy Ferns, will do admirably in such a case, and so would small plants of Coleus, but though they will succeed separately, they will not succeed so well together, as the moist atmosphere that would suit the Ferns will be apt to damp the Coleuses, or cause them to grow too freely. A somewhat dry atmosphere, and a temperature of from 55° to 60° suits them best in winter, when it is desirable to keep them in little space. They grow freely enough in spring and summer, but in a close moist atmosphere and a temperature of from 45° to 50° in winter they will damp off to a certainty. Dryness is their safety in a low temperature. You can have covers for Vols. XV. and XVI., free by post, if you enclose 2*s.* 6*d.* in postage stamps with your direction.

ASPARAGUS NOT SUCCEEDING (*A Subscriber*).—We think the failure is entirely owing to the soapy condition of the soil about the crowns, combined with heavy dressings of salt, which tend to make the surface soil still more moist. We would remove the surface soil down to the crowns when the haulm becomes yellow, and replace it with a compost of sandy loam, leaf soil, and river or sharp sand in equal parts, not covering deeper than 3 inches, and then putting on 3 inches of manure, not covering it with soil, as is usually done. In spring point over the beds lightly, and sow the seed early in April, three rows in a bed, and thin out the seedlings in June to 6 inches apart. Dress with salt in March, but not next year. 1 lb. per square yard is sufficient.

CONIFERS FOR A LAWN (*Idem*).—You confine us to dwarf kinds, none to exceed 10 feet in height when full grown. You may plant the following:—Abies rubra cærulea, A. elegans; Juniperus macrocarpa, J. communis pendula; Retinospora ericoides, Taxus adpressa, and Thuja plicata caucasica.

FRUIT-GROWING FOR PROFIT (*W. M.*).—Growing Peaches in the open air in this country, however good the crops realised, seldom pays. Good winter Pears are far more profitable; or, why not cover your wall with glass, and then Peaches would in your climate come in pretty early, and secure a good price before the great glut of the season could compete with them?

CHARCOAL FOR POTTING (*A. B. C.*).—Any wood answers well. The shavings you mention would make a powdery charcoal, that would do for mixing with the soil, and the lumps of Sycamore would do for drainage if not larger than walnuts, nor smaller than peas.

FANCY PELARGONIUM LEAVES TURNING YELLOW (*Anxious Inquirer*).—There is nothing wrong with the leaves. Their office is at an end, and they turn yellow and would fall if you did not pick them off. You should have cut the plants down after flowering to within three or four eyes of the old wood, or each shoot to within two or three eyes of its base, keeping the plants dry until they began growing, and then watering as required. You should have potted the plants when they had made shoots about an inch long, and you would now have had fresh green leaves. Cut them back now, and do not keep the soil more than moist. If green fly again appear fumigate with tobacco.

PENTSTEMON PROPAGATION (*Idem*).—Take the side shoots that come from near the root, slip them off, and pare the bottom smooth with a sharp knife: or cut them immediately below a joint. Trim off the leaves halfway up the cuttings, insert the latter that depth in sandy soil in a warm situation, and cover with a hand-glass. Keep the soil moist but not very wet, and shade from bright sun. Keep the light over the cuttings close for a month, then give air by tilting it. Cuttings may be put in now, but the end of August is, perhaps, the best time. They strike freely in spring and summer.

DIGGING BETWEEN STRAWBERRY AND RASPBERRY ROWS (*Idem*).—Nothing is more injurious than deep digging between plants. The ground should be cleaned and loosened a little, but not so deeply as to interfere with the roots, and the surface mulched with manure. It does not dry at this season as in summer, and the rains of autumn and winter will carry down to the roots its nutritive principles.

CATERPILLARS (*G. M. D.*).—They were the larvæ of some one of the Hawk moths; but without a full description of the colours of the body and horn, we cannot say which. We cannot publish what you write about the Pansies.

INSECTS—FRUIT (*T. E. G.*).—The insects attacking your Plums are hornets. The Pear is Beadnell's Seedling, but the Apple we do not recognise.

NAMES OF FRUITS (*I. C.*).—1, Winter Hawthornden; 2, Bedfordshire Foundling; 3, Wyken Pippin; 4, Brougham. (*Col. Rooke*).—We had to pay 6*d.* for your box. 3, Golden Reinette; 4, Margil; 8, Pearson's Plate; 13, Fearn's Pippin; 15, Beurré d'Aremberg. The others are all cyder and perry fruits, of which we have no means of knowing the names. (*W. Thompson*).—The Apple from Devonshire is Scarlet Pearmain. Though an ornamental and handsome Apple we do not know that it has ever

been grown extensively for market. (*Guernsey*).—The large green Apple is Alfriston, and that with a brown tinge on it is Warner's King.

NAMES OF PLANTS (*C. P.*).—Cerinthe minor. (*T. H. C. D.*).—1, Physalis edulis, the Cape Gooseberry; 2, Balsamita vulgaris—Costmary. (*A. B. C.*).—1, Bartsia odontites; 2, Achillea Ptarmica; 3, Juncus bufonius; 4, Carex vulpina; 5, Angelica sylvestris; 6, Sanicula europæa; 7, Oxyria reniformis. (*M. Parsons*).—Catalpa syringæfolia. (*Ignoramus*).—Blitum virgatum. (*L. M. H.*).—Your Fern is Lomaria spicant, var. cristata. It has been figured in "Lowe's Native Ferns," Vol. 2, where several other abnormal forms of the Hard Fern are described. (*An Inquirer*).—Some Solanum, most probably S. capsicastrum. We should be able to tell you with greater certainty if your specimen had been in bloom. The whole family is of a poisonous nature. (*Devon*).—1, Hypericum androsæmum; 5, Melissa officinalis variegata; 8, Celsia orientalis. The rest next week.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending September 28th.

DATE.	BAROMETER.		THERMOMETER.				WIND.	RAIN IN INCHES.	GENERAL REMARKS.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 22	30.147	30.056	66	49	56	56	W.	.00	Very fine; cloudy but fine; densely clouded.
Thurs. 23	30.147	30.0-8	68	53	57	56	S.W.	.00	Overcast, cold wind; fine, cloudy; densely overcast.
Fri.... 24	30.066	30.002	74	47	59	56	W.	.00	Slight rain; fine, but cloudy; densely overcast.
Sat.... 25	29.962	29.780	74	51	60	57	S.W.	.00	Very fine; exceedingly fine; clear and fine.
Sun... 26	29.953	29.886	68	36	60	57	W.	.00	Fine; very fine; clear and very fine.
Mon... 27	29.977	29.891	64	38	58	57	S.W.	.00	Cloudy, but fine; densely overcast; cloudy.
Tues.. 28	29.763	29.588	67	43	57	56	S.	.00	Very fine; cloudy; fine; clear, starlight.
Mean..	30.002	29.891	68.71	46.00	58.14	56.43	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

A WORD FOR HOUDANS AT PUBLIC SHOWS.

My object in now soliciting space for a few lines is to endeavour to obtain a more prominent position for this valuable breed of poultry, in the hope that I may induce others who delight in Houdans, as I do, to urge with their greater ability and experience the committees of future shows to try and find a corner for them in a class by themselves.

To instance how little encouragement this useful breed as yet obtains at public exhibitions in this country, upon looking over the last half-dozen numbers of the Journal I find the descriptions of thirty-two different shows, out of which there are but three having classes for French poultry generally, only one giving a class for Houdans exclusively. An intending exhibitor must therefore enter them, if at all, in the "Any other variety" class; and if he considers for a moment the number of other breeds that can, according to the magnitude of the show, be brought against him, together with the attendant expense, increasing with the distance, it is enough to make him think twice before resolving to send his birds into such an unequal contest with such an uncertain issue.

It would appear upon first consideration, and many doubtless would say, that the other breeds competing against Houdans in the above class are just as much entitled to a separate one for themselves; and this would indeed be the case were I advocating more especially the cause of a purely "fancy" fowl. I hope I am right in saying, however, that the Houdan is not a purely fancy fowl, and therefore deserves to be selected individually. We cannot take up a paper or work upon poultry without seeing the useful qualities of Houdans extolled, and there is no breed so calculated for the profitable production of eggs and meat, either for the table of a private family or for the market from a farm; and the latter circumstance should be sufficient in itself for their encouragement in a country where poultry is so much neglected by the agriculturist.

Being pre-eminently the breed for a farmer, should not the introduction of Houdans over the country be attempted? for it is in this position poultry will be most profitable; and if this is the case, why, in an agricultural sense, should the Houdan not have a class in the same way that the famous Shorthorn so certainly does at every show? I should like to see the motley crew of barndoors partially give place, from homestead to homestead, to the black and white spangles of the Houdan, or at least have the Houdan element largely imported into them. Poultry produce would become more abundant, and the money that is now sent away in payment for the millions of eggs that are annually imported from France would be retained in the country. I must conclude with a hope that I may enlist your readers in the cause.—SCOTIA.

A CLEVER MOTHER HEN.—It is interesting to know and to notice the dangers and difficulties which eggs will go through during incubation without the brood being destroyed. On the 28th of July our old fowls were shut up for some cleaning bout, and when they were let out, a hen we have named Shortlegs bustled behind the house, as if some important matter depended on her immediate attention there, and so it did, for on following her we found her comfortably settling down on a stolen nest of thirteen eggs, all her own there is no doubt. As the 18th of August was thought too late for chickens, the eggs were taken away, and she was left to go to roost in the henhouse; this happened towards evening; the weather was quite dry, but very warm. In the morning cool reflection came; it was considered that those thirteen eggs, if boiled for breakfast, might disclose something not appetising to the fastidious, and poor Shortlegs was puffing and fretting for them, so they were given up to her in the nest she had made, after being kept away about fifteen hours. They were given to her without an idea that they had been sat on previous to her so eagerly taking possession the evening before. That day fortnight she neglected to come off to feed, and so was looked after again, when a lot of little heads were popping out around her. She had hatched ten chicks, two were dead in the shell. I believe we should have had twelve from the thirteen eggs if we had known of their hatching, and bestowed a little necessary attention in removing the eggshells.—E. WATTS.

POULTRY DURING AN ECLIPSE OF THE SUN.

I WELL remember the effect of a total eclipse of the sun, I think in 1836, upon the fowls in my poultry yard. The old Dorking cock repeatedly turned his head on one side to look at the sky as it became darker, as if he thought there was something wrong; but at length he became convinced that it must be evening, and he and his wives betook themselves to the roost-house. But, even then, before perching, he put his head out, and took a final look upwards as if to be certain there was really no mistake. Before they were well settled, the eclipse gradually terminating, the fowls came down again from their perches, and when the old cock emerged from the house, and before venturing to crow, he looked up at the sky, and there was evidently an impression that if there was not a mistake somewhere, the night had passed marvellously quickly. This was all recalled to my remembrance by reading the following in an American newspaper:—Dr. Peters, the eminent astronomer connected with Hamilton College, went west to observe the late eclipse of the sun. He requested an old negro living near his observatory to watch his big flock of hens, for at 4-45 they would go to roost. After the eclipse was over, the negro came, evidently much excited. "How was it?" said the doctor. "Beats ebbery tink," said the negro. "When de darkness come, ebry chick'n run for de hole in de barn. De fust ones got in, and de next ones run ober one anudder, and de last ones dey just squat right down in de grass. How long you know dis ting was a-coming?" "Oh, I reckon we knew it more than a year," said the doctor. "Beats de debbil! Here you away in New York knowd a year ago what my chick'ns was gwine to do dis bery afternoon, an' you nebber see de chick'ns afore nudder."—G.

NORTH BRITISH COLUMBARIAN SOCIETY.—Our Scotch friends are again to the front in Pigeon matters, as a copy of the schedule of their eleventh annual Show, to be held in Glasgow

on the 16th and 17th of December, lies before me. They have, I see, changed their quarters to the Drill Hall—a happy augury that they may have many volunteers to the Pigeon fancy. The President, Vice-President, Treasurer, and Honorary Secretary are our old friends—Messrs. Montgomery, Muir, Wallace, and Ruthven. The schedule is divided into two portions:—classes for members' competition only, for birds bred in 1869, which must be bred by the exhibitor; and class prizes given by the Society, open to all competitors. In the former the prizes consist of twelve silver medals for Pouters, value one guinea each, two for Carriers of two guineas' value, one of the same value for Barbs, and the same for Short-faced Tumblers. With respect to the class prizes given by the Society, and open to all competitors, there are fourteen prizes of 20*s.* each for Pouters, and the like number of 10*s.* and 5*s.* prizes, and a silver medal, value £2 2*s.*, as a special prize for the cock Pouter, best in form and carriage, and a similar silver medal for the best hen Pouter, offered by Capt. Heaton. Then five prizes for Carriers and a medal; two for Short-faced Tumblers and a medal; two for Barbs and a medal; Fantails one prize—*i.e.*, one first, one second, and one third; this is the case throughout. Jacobins, two and medal; Trumpeters, three and medal; Turbits, one and medal; English Owls the same; Foreign Owls also the same; Nuns a prize; so also Beards, Balds, or Tumblers. A prize is also given (20*s.*, 10*s.*, and 5*s.*) for Antwerps. Most properly "it is requested by the Society that exhibitors attach to the entries for this class certificates of performances as flyers, which will be published in catalogue." The schedule finishes with a prize for Dragoons, and one for Fancy Pigeons, not otherwise classed; and a prize of a guinea to the pair of birds most beautiful in plumage. I heartily wish the Committee a good show, good weather, and plenty of visitors.—Wiltshire Rector.

PENCILLINGS FROM AYLESBURY.

You know, Messrs. Editors, what a rambler I am; how at one time I am in Surrey, at another in Sussex; how on one occasion I found myself at Clifton, at another at Leighton. You will, therefore, I trust, forgive me if I send you the results of a ramble which I resolved upon for the purpose of viewing the poultry show held at Aylesbury on the 22nd inst.

The place is, indeed, quite a type of a country town, having a good open square in the centre, a noble market and Corn Exchange, to say nothing of the church, which has been restored and beautified in no ordinary manner, in a great measure, I am told, through the efforts of that veteran fancier, Mr. John Fowler. Accompanied by a friend, who had come all the way from Surrey to see the Show, and as he hoped, to carry off a silver cup, I wended my way to the Market House, whither the chorus of the chanticleers summoned us in terms which could not be mistaken. At the door were eager exhibitors, anxiously awaiting the signal for admission; a few, however, seemed to be already aware of the results in certain classes, though how this was managed your deponent knoweth not. Some members of the Committee can probably explain the difficulty. About one o'clock we learnt that the Judge's labours were almost over, and that we might enter. Considering that thirteen or fourteen silver cups were offered for competition, we naturally expected a first-rate show; but this it can scarcely be called. Some of the classes were unquestionably good. The *Dorkings*, in particular, were pronounced to be excellent, and seventeen entries from all parts of England proved that there was a determined struggle for the possession of the two silver cups. The award of the Judge with respect to these no one appeared inclined to question; but the third-prize pen certainly seemed inferior to some others, the comb of the cock being such as would have frightened Mr. Hewitt. Close by was a magnificent cockerel with a pullet equally good, which seemed worthy of some notice; broken and twisted toes, and possibly crooked breasts, may have led the Judge to pass them by. An exhibitor in this class seems to have made a mistake with regard to his birds. They reminded me (hearing as I did but one opinion from the most experienced fanciers) of the old saying, that "men are but children of a larger growth," which here appeared to run, "cocks are but cockerels of a larger growth." A similar mistake, it was confidently asserted, had been made in the *Spanish* class, round which at one time words ran high, and voices were far too loud to be musical. The *Ducks*, it need scarcely be said, were very good; Mrs. Seamons and Mr. Fowler, as usual, holding their own. The *Turkeys*, though few in number, were good. Here, again, it was confidently declared that an old bird was entered in a class in which chickens only could claim a prize, and the old scales on the hocks offered ocular proof of what no one could doubt. The *French* fowls were fairly represented; and everyone would admit that Mr. Leno deserved the first and second prizes he won with his *Bantams*. The *Geese* were excellent, but in one pen two ganders led one to suppose that the owner was scarcely aware of the conditions of the Show. The *Hamburghs* and *Polands* were far from numerous, and the Light *Brahmas* did not obtain even a commendation, their darker brethren being decidedly good.

As the question of compound foods has been before your readers, I may mention that I was assured by the owners of two of the finest pens in the exhibition, one of them the winner of a silver cup, that they had used no compound food whatever in producing what really were first-rate results.

My reflections on returning from my ramble, I found, were of a very mixed character. Delighted as I had been to see such beautiful specimens of my feathered friends, I could not but regret that so many charges of dishonesty should be brought, and I fear with too much truth, against some who ought to care to win only with honour. To enter old birds as chickens, or ganders as Geese, is really an attempt to obtain for yourself what belongs to another, and no man with a spark of good feeling would condescend to such tricky shamelessness. Honesty, however, is after all the best policy—it is the good birds, and the honest exhibitors, that in the long run win; and even if a judge is now and then deceived, the deceit does not last an hour, while the exhibitor earns for himself the contempt of all whose good opinion is worth having. I wished, too, that certain exhibitors would take with them a larger supply of good temper. To hear the language of some of them, attacking first one and then another, never content except they had appropriated everything to themselves, one would suppose that no one else possessed anything worth having. Happily this is not the case with the great majority of poultry fanciers; for myself I may say that the fancy has led me to make the acquaintance of many whom I cannot but esteem, while it has solaced hours of sadness, and relieved the tediousness of a wearying occupation.—E. M. B. A.

The following is the list of awards:—

Dorkings (Any variety).—1, J. Longland, Grendon. 2, Rev. E. Bartrum, Great Berkhampstead. 3, J. Smith, Shillinglee Park, Sussex *hc* and *c*, L. Patton, Hillmore, Bishops Hull.

Brahmas (Any variety).—1, Cup, and 2, H. B. Morrell, Cae Mawr, Clyro. 3, H. Brown, Putney Heath. *hc*, Mrs. Burrell, Ipswich; C. Layland, Morris Brook, Warrington; J. K. Fowler.

Spanish.—1, J. Laming, Cowhorn, Spalding. 2, W. R. Bull, Newport Pagnell. 3 and *hc*, F. James, Peckham Rye.

Cochins (Buff).—1, C. Sidgwick, Ryddlesden Hall, Keighley. 2, J. H. Dawes, Moseley Hall, Birmingham. 3, F. W. Rust, Hastings. *hc*, Mrs. Burrell.

Cochins (Partridge).—1, C. Sidgwick. 2 and 3, J. K. Fowler, Aylesbury.

Game (Black-breasted and other Reds).—1 and Cup, J. R. Fletcher, Stoneclough, Manchester. 2 and 3, S. Matthew, Stowmarket. *hc*, T. Dyson, Halifax.

Game (Any other colour).—1, T. Dyson.

French Fowls (Crève-Cœurs).—1 and Cup, J. J. Malden, Biggleawade. 2, Miss E. Williams, Heollys, Berriew. 3, Mrs. M. Seamons, Hartwell, Aylesbury.

French Fowls (Any other variety).—1 and 2, O. Quihell, Newark. 3, C. Layland.

Hamburghs Gold or Silver-pencilled).—1 and Extra Prize, R. R. Parker, Ipswich. 2, J. Laming. 3,—Barford, Aylesbury. *hc*, S. Burn, Whitby.

Hamburghs (Gold or Silver-spangled).—1, J. Laming. 2,—Barford.

Game Bantams.—1, H. C. Rogers, Newport Pagnell. 2, W. Adams, Ipswich. 3, F. Pittis, Newport, Isle of Wight.

Bantams (Any other variety).—1 and 2, M. Leno, Dunstable. 3, J. Laming.

Any other Variety not Before Mentioned.—1, J. Laming. 2, J. K. Fowler. 3, C. Sidgwick.

Ducks (Aylesbury).—1, Mrs. M. Seamons, Hartwell, Aylesbury. 2 and 3, J. K. Fowler, *hc*, H. Jones, Dinton, near Aylesbury. *c*, Mrs. Burrell. (Maiden Class).—1, W. Weston, Aylesbury. 2, J. Funge, Long Marston. 3, T. Kingsley, Borascroft. *hc*, J. Funge.

Ducks (Rouen).—1, J. K. Fowler. 2, S. H. Stott, Rochdale. 3, J. L. Lowndes, Aylesbury.

Ducks (Any other variety).—1, S. Burn. 2, C. N. Baker, Chelsea. 3, Lieut.-Col. H. B. Lane. *hc*, C. N. Baker; M. Leno.

Geese (Any variety).—1, J. K. Fowler. 2, Mrs. M. Seamons. 3, S. H. Stott. *hc*, J. K. Fowler; Mrs. M. Seamons.

Turkeys (Any variety).—1 and 2, L. Patton. 3, S. H. Stott.

Guinea Fowls.—1, Miss T. A. Cresswell, Hounslow. 2, J. Treadwell, Upper Winchendon.

Pheasants (Any variety).—1, M. Leno. 2, 3, and *hc*, J. K. Fowler.

Selling Class.—1, J. K. Shrimpton, Easington. 2, H. Jones. 3, H. Brown, Putney.

Pigeons.—*Carriers* (Any variety).—1, P. H. Jones. *Pouters* (Any variety).—1 and 2, P. H. Jones. *Fantails* (Any variety).—1, P. H. Jones. 2, F. Graham, Birkenhead. *hc*, J. F. Loversidge, Newark. *Any other*

Variety.—1 and 2, P. H. Jones. *hc*, J. K. Fowler; H. Gurney, Aylesbury; P. H. Jones; F. Graham.

JUDGE.—Mr. G. S. Sainsbury, Devizes.

WOODSTOCK AGRICULTURAL ASSOCIATION'S POULTRY SHOW.

THE twelfth annual Show of this Society was held in Blenheim Park, on September 21st., and was one of the most successful meetings ever held there. The following are the awards:—

DORKINGS.—1, J. Hutt, Thrupp, Kidlington. 2, H. L. Gaskell, Kiddington Park. 3, Duchess of Marlborough, Blenheim Palace. *Chickens.*—1 and 3, Duchess of Marlborough. 2, J. Hutt.

BRAHMAS.—1, Duchess of Marlborough. *Chickens.*—1, — Keene.

HAMBURGHS.—*Spangled.*—1 and 2, — Godden, Woodstock. *Chickens.*—1, — Evans, Marston, near Oxford. 2, — Godden. *Pencilled.*—1, — Aries, Kiddington, near Oxford. 2, — Warmington, Woodstock. *Chickens.* 1 and 2, — Brimfield, Exeter College, Oxford.

GAME.—1, J. Hutt. 2, — Warmington. *Chickens.*—1, J. Hutt. 2, Withheld.

GEESE.—1, Duchess of Marlborough. *Goslings.*—1, Duchess of Marlborough.

DUCKS (Aylesbury).—1, Duchess of Marlborough. 2, A. Bowyer, Steeple Ashton. *Ducklings.*—1, — Amies, Coombe. 2, H. L. Gaskell.

DUCKS (Rouen).—1 and 2, — Woodford, Kidlington. *Ducklings.*—1, — Woodford. 2, H. L. Gaskell.

DUCKS (Any variety)—1 and 2. — Lester, Glympton, Woodstock. *Ducklings.*—1, — Lester. 2, Wilsdon, Woodstock.

TURKEYS (Black).—1, Duchess of Marlborough. *Poults.*—1, Duchess of Marlborough. 2, H. L. Gaskell.

TURKEYS (Grey).—1, Duchess of Marlborough. *Poults.*—1, Duchess of Marlborough. 2, — Daves, Kensington, Woodstock.

SPECIAL PRIZES (Given by the Duchess of Marlborough).—1, J. Hutt. 2, W. Pratt, Woodstock.

CHAMPION PRIZE (Given by the President, James Mason, Esq., Eynsham Hall).—1, Duchess of Marlborough. *Chickens.*—1, — Keene.

JUDGE.—Mr. G. S. Sainsbury, Devizes.

BURTON-ON-TRENT POULTRY SHOW.

FEW shows of poultry have been so well supported as that which took place at Burton-on-Trent on the 23rd inst. Held in a locality easily accessible to a dense population, and having the assistance of many local poultry-keepers, success was almost a certainty, and but for a few flitting showers, all went on as pleasantly as possible. Some birds among the *Game*, though moulting, were especially noticeable, and the show of *Dorkings* was unusually good. *Cochins* might have been shown in higher condition, but the *Brahmas*, both Light and Dark-feathered, were excellent. *Hamburghs* were so well represented, that it was worth making a long journey to see them. The single cock class was a signal failure. The *Turkeys*, the *Geese*, and the classes for domesticated *Ducks*, were really admirable; and in the extra class were some very creditable specimens of Sebright *Bantams*, which obtained extra prizes. The tent was exceedingly commodious, and the general arrangements first-rate.

YOUNG BIRDS.

GAME (Black-breasted and other Reds).—1, Duke of Sutherland, Trentham Hall. 2, R. Ashley, Nantwich. *hc*, W. H. L. Clare, Twycross, Atherstone.

GAME (Any other variety).—1, Duke of Sutherland. 2, R. Ashley. *hc*, Master J. Fletcher, Stonecclough, Manchester (Piles).

SPANISH.—1, J. Walker, Wolverhampton. 2, T. & E. Comber, Myddleton Hall, Warrington.

DORKINGS (Coloured, except Silver-Greys).—1, Mrs. F. S. Arkwright, Etwall Hall, Derby. 2, L. Patton, Hillmore, Bishop's Hull, Taunton. *hc*, Countess of Chesterfield, Bretby Hall, Burton-on-Trent; S. H. Stott, Rochdale. *c*, Mrs. F. S. Arkwright.

DORKINGS (Silver-Grey or White).—1, Countess of Chesterfield. 2, Lady Bagot, Blithfield Hall, Rugeley. *c*, Miss E. Williams, Henllys, Berriew.

COCHIN-CHINA (Cinnamon or Buff).—1, Mrs. Allsopp, Hindlip Hall, Worcester. 2, C. Sidgwick, Ryddlesden Hall, Keighley. *hc*, J. H. Dawes, Birmingham.

COCHIN-CHINA (Brown, Partridge-feathered, or other varieties).—1, Mrs. A. Williamson, Queniborough Hall, Leicester. 2, C. Sidgwick. *hc*, H. Lingwood, Martlesham, Woodbridge. *c*, A. O. Worthington, Newton Park, Burton-on-Trent.

BRAHMA POOTRA (Dark).—1 and 2, Rev. E. Alder, Etwall Vicarage, Derby. *hc*, Rev. E. Alder; H. Lingwood; H. B. Morrell, Cae Mawr, Clyro, Hay. *c*, Mrs. A. Williams, Rearsby, Leicester.

BRAHMA POOTRA (Light).—1, Mrs. A. Williamson. 2, H. Lacey, Hebden Bridge. *hc*, H. M. Maynard, Holmewood, Ryde.

HAMBURGHS.—*Golden-pencilled.*—1, W. K. Tickner, Ipswich. 2, Duke of Sutherland. *c*, H. Pickles, jun., Earby; Duke of Sutherland. *Silver-pencilled.*—1 and *hc*, Duke of Sutherland. 2, H. Pickles, jun. *c*, Mrs Allsopp. *Golden-pencilled.*—, E. Brierley, Heywood, Manchester. 2, H. Pickles, jun. *hc* and *c*, Duke of Sutherland. *Silver-spangled.*—1 and *hc*, Duke of Sutherland. 2, H. Pickles, jun.

SINGLE COCKERELS.—*Game.*—1, W. H. L. Clare. *Dorking.*—1, Mrs. F. S. Arkwright. *Cochin-China.*—1, A. O. Worthington.

TURKEYS (Any variety).—1, Mrs. A. Guy, Eaton, Grantham. *hc*, F. E. Richardson, Bramshall, Uttoxeter; E. Leech, Rochdale; S. H. Stott, Rochdale.

GOSLINGS.—1, S. H. Stott. 2, Rev. G. Hustler, Stillingfleet Vicarage, York. *hc*, J. Faulkner; E. Leech; S. H. Stott. *c*, G. J. Mitchell, Burton-on-Trent.

DUCKLINGS (White Aylesbury).—1, C. Havers, Ingatestone, Essex. 2, E. Leech. *hc*, S. H. Stott. *Rouen.*—1 and 2, W. H. Robson. *hc*, A. O. Worthington; W. Gamon, Hoole Cottage, Chester; S. H. Stott. *c*, E. Leech. *Any other Distinct Variety.*—1 and 2, A. O. Worthington.

EXTRA CLASS.—1 and 2, Viscount Anson, Ranton Abbey, Eccleshall (Silver-laced Sebright and Golden-laced Sebright). *hc*, Viscount Anson (Golden-laced Sebright Bantams); J. Neville, Haselour Hall, Tamworth (Silky).

The Judges were the Rev. Thomas O'Grady, of Ashbourne, and Edward Hewitt, Esq., of Birmingham.

HIPPERHOLME POULTRY SHOW.

THIS Show was held September 18th. The number of entries was not large, but any deficiency in this respect was fully compensated for by the quality of the birds. There was a large entry of *Game*, and the competition was very close, many first-class birds only receiving commendations. The entry of *Cochins* and *Spanish* was small, but the winning pens were good. The *Hamburgh* class was superior; the first-prize pen of Silver-spangled was excellent. Of *Game Bantams* there was a large and fair class. The "Any variety" class was composed of Black Hamburghs and Polands, all good birds; the first prize being awarded to an extra pen of Black Hamburgh chickens. Rouen *Ducks* are increasing in numbers and quality, and ought to have prizes awarded them, independently of the "Any variety" class. It would be much better when shows are held so late as September, if only chickens were allowed to compete, as adult fowls are generally in the moult, and not fit for exhibition.

GAME COCK (Any colour).—1, H. Jowett, Idle. 2, R. Hemingway, Shelf. 3, Green & Sutcliffe, Queensbury. *hc*, T. Dyson, Halifax.

GAME (Black-breasted or other Reds).—1, T. Dyson. 2, H. Jowett.

GAME (Any other variety).—1, T. Dyson. 2, J. Sunderland, Coley Hall, Hipperholme. 3, H. Jowett. *hc*, T. Denton, Southowram. *Hen or Pullet.*—1, R. Hemingway. 2, A. S. Riley, Kirkburton. *hc*, M. B. Wyvill, Shelf; C. Ashworth, Halifax.

COCHIN-CHINA (Any variety).—1 and 2, C. Sidgwick, Ryddlesden Hall, Keighley.

SPANISH.—1 and 2, J. Thresh, Bradford.

HAMBURGHS.—*Golden-spangled.*—1, H. Pickles, jun., Earby, Skipton. 2, W. Driver, Morton Banks, Keighley. *Golden-pencilled.*—1, W. Clayton, Morton Banks, Keighley. 2, H. Pickles, jun. *hc*, S. Smith, Northowram. *Silver-spangled.*—1, Ashton & Booth, Mottram. 2, W. Bairstow, Bingley. *hc*, W. Bairstow; H. Pickles, jun.; T. Garnett, Idle. *Silver-pencilled.*—1, T. Garnett. 2, H. Pickles, jun.

GAME BANTAMS (Any colour).—1, F. Steel, Stamp Cross, near Halifax. 2, M. B. Riley, Woodside, Hipperholme. *hc*, S. Speak, Range Bank, Halifax; F. Steel.

BANTAMS (Any other variety).—1, J. Walker, Halifax. 2, M. B. Riley. *hc*, M. B. Riley; J. Longbottom, Halifax.

ANY OTHER DISTINCT VARIETY. 1, C. Sidgwick. 2, H. Pickles, jun. *hc*, J. S. Senior, Dewsbury; H. W. Illingworth, Idle.

DUCKS (Aylesbury).—1, M. B. Riley

DUCKS (Any other variety).—1, J. S. Senior. Extra 1 for local prize, M. B. Riley. 2, C. Sidgwick. Extra 2, S. & R. Ashton, Mottram.

PIGEONS.—*Dragoons.*—1, F. Steel. 2, J. S. Senior. *Owls.*—1, F. Steel. 2, T. Eggleston Halifax. *Turbits.*—1, T. Eggleston. 2, T. Denton, Southowram. *Fantails.*—1, T. Eggleston. 2, J. E. Robson. *Common.*—1, F. Steel. 2, W. Mitchell, Hipperholme. *Any other Variety.*—1, J. S. Senior. 2, T. Eggleston.

JUDGES.—Mr. Dodds, Wakefield; Mr. Joseph Walker, Haya-Park, Knaresborough.

MARCH POULTRY SHOW.

THE Show at March was admirably conducted, and for the first time it was held on two consecutive days—viz., September 22nd and 23rd. Every accommodation was secured for the birds, whether fowls or Pigeons, and Mr. Bellott's well-known exhibition pens showed all to the fullest advantage, a large tent affording ample protection from the weather. Grey *Dorkings* were a fair class, but the class for any other variety of Dorkings was as bad as it well could be; the Grey Dorking chickens were excellent. The *Game* for the most part were not in full plumage. Many pens of *Hamburghs* were shown that would be most creditable to any show, and there were also some decidedly good *Brahmas*. *Turkeys* and *Geese* were good, but the chief feature of the show-tent was the collection of *Pigeons*. No doubt the success of this division of the Show this year will only be a prelude to its extension on future occasions. The attendance was especially good.

DORKINGS (Coloured).—1, R. Wood, Clapton, near Thrapstone. 2, F. Parlett, Great Baddow.

DORKINGS.—*Chickens.*—1, J. Roper, Barham, Ipswich. 2, R. Wood. *hc*, J. B. Harvey, Tuddenham, Mildenhall (Blue-speckled); Rev. F. Tearle, Gazeley Vicarage, Newmarket; F. Parlett; G. S. Hall, Ely.

GAME (Black-breasted or other Red).—1 and 2, S. Matthew. *hc*, J. T. Ashley, Litcham.

GAME (Any other variety).—1, S. Matthew (Duckwings). 2, S. Deacon, jun., Oundle.

COCHIN-CHINA (Buff).—1, J. H. Dawes, Birmingham. 2, W. C. Little, Stag's Holt, March.

COCHIN-CHINA (Any other variety).—1, H. Lingwood, Woodbridge, (Partridge). 2, Miss Hales, Canterbury (White). *c*, R. W. Smith, Grandford, March (Partridge).

GAME BANTAMS (Any variety).—1, A. Storrar, Peterborough (Black-breasted Red). 2, W. Adams, Ipswich (Black-breasted Red). *c*, F. Richardson, Chatteris.

BANTAMS (Sebrights, Golden, or Silver).—1, Miss A. Hodson, North Petherton, near Bridgewater. 2, T. C. Harrison, Hull. *c*, Rev. F. Tearle.

BANTAMS (Any other variety).—1, G. S. Hall, Ely (White feather-legged). 2, Rev. F. Tearle. Extra 2, S. & R. Ashton, Mottram. *c*, A. Storrar (Black).

HAMBURGHS (Golden or Silver-spangled).—1 and Cup, H. Pickles, jun. Skipton. 2, S. & R. Ashton.

HAMBURGHS (Golden or Silver-pencilled).—1, W. K. Tickner, Ipswich. 2, H. Pickles, jun.

SPANISH.—1, T. C. & E. Newbitt, Epworth. 2, G. S. Hall, Ely.

BRAHMA POOTRA (Dark).—1, J. T. Ashley. 2, H. Dowsett, Pleshey, Chelmsford.

BRAHMA POOTRA (Light).—1, J. Pares, Postford, Guildford. 2, H. Dowsett.

ANY OTHER VARIETY.—1, H. Pickles, jun. (Polands). 2, T. Spurr, King's Lynn (Japanese). *c*, A. S. Rae, Ely (Silver-spangled Polish).

ANY BREED EXCEPT DORKINGS.—*Chickens.*—1, H. Dowsett. 2, W. Dring, Faversham (Houdans). *hc*, Miss Hales, Canterbury (Light Brahmas); W. K. Patrick, Lynn (Polands); Mrs. E. Williams, Henllys (Crêve Cœurs).

SELLING CLASS.—1, Dr. D. C. Campbell, Brentwood. 2, B. Branford, March (Silver-pencilled Hamburghs).

TURKEYS (Any variety).—1, T Morton, Offord D'Arcy (Cambridge). 2, G. S. Hall. *hc*, J. B. Hides, Wisbech Fen (Cambridge).

DUCKS (Rouen).—1, L. Patton, Hillmore, Taunton. 2, G. S. Hall.

DUCKS (Aylesbury).—1, S. Deacon, jun., Oundle. 2, C. Havers, Ingatestone.

DUCKS (Any other variety).—1, S. & R. Ashton. 2, T. C. Harrison.

GEESE (Any variety).—1, J. T. Ashlev. 2, A. Grounds, March. *Goslings.*—1, J. T. Ashley. 2, T. Morton. *hc*, H. Mitchell, Warboys.

PIGEONS.

CARRIERS.—1, F. W. Metcalfe, Cambridge. 2, J. Addison, Cambridge. *hc*, R. Hall, Cambridge; H. Yardley, Birmingham. *c*, E. Walker.

TUMBLERS.—1, J. H. Irving, Lingfield, East Grinstead. 2, J. Fielding jun., Rochdale.

OWLS.—1, J. Fielding, jun. 2, G. S. Hall (White). *hc*, J. Fielding, jun. J. H. Irving.

POUTERS. — 1, R. Ruston, jun., Chatteris. 2, E. Walker, Leicester. *hc*, G. S. Hall; H. Yardley.

BARBS.—1 and 2, J. H. Irving. *hc*, J. Fielding, jun.; H. Yardley.

FANTAILS.—1, H. Yardley. 2, T. C. & E. Newbitt. *hc*, G. S. Hall.

JACOBINS.—1, T. C. & E. Newbitt. 2, H. Yardley. *hc*, G. Johnson, Kettering.

TURBITS.—1, H. Yardley. 2, J. Fielding, jun. *hc*, T. C. & E. Newbitt.

ANY OTHER VARIETY.—1, H. Yardley. 2, T. C. Marshall (Magpies). *hc*, T. C. Marshall (Magpies); J. T. Ashley (Runts); H. Yardley.

SELLING CLASS.—1, H. Yardley. 2, E. Walker (Pouters). *c*, Lady Pigot, Branches Park, Newmarket (Nuns).

EXTRA.—*c*, C. B. Bates (Doves).

Edward Hewitt, Esq., of Sparkbrook, near Birmingham, was the Judge.

LANCASTER POULTRY SHOW.

THE tenth annual Exhibition of the Lancaster Agricultural Association was held at Lancaster on the 21st inst. The following are the awards made for poultry, the Show of which was but small :—

GAME (Any colour).—1, T. Mason, Lancaster. 2, J. Hodgson, Burton. *c*, J. Hodgson; T. Mason. *Cock.*—1, J. Hodgson.

HAMBURGHS.—*Golden-pencilled.*—1 and 2, B. Bee. *Silver-pencilled.*—1, J. Robinson. 2, B. Bee. *Golden-spangled.*—1 and 2, J. Robinson. *Silver-spangled.*—1 and 2, J. Robinson.

DORKINGS.—1, R. Smalley. 2, W. H. Butcher. *c*, R. Smalley; J. Robinson.

COCHIN-CHINA (Any colour).—1 and *c*, J. Robinson. 2, J. Parkinson.

SPANISH (Black) —1 and *c*, G. Standen.

GAME BANTAMS.—1, W. H. Butcher. 2, J. Parkinson. *c*, J. Robinson.

TURKEYS.—1, J. Cock. 2, R. Richmond. *c*, R. Stackhouse.

DUCKS.—*Aylesbury.*—1 J. Robinson. 2, B. Bee. *c*, J. Robinson; R. Smalley. *Rouen.*—1, J. Parkinson. 2, J. Walker. *c*, J. Robinson.

GEESE.—1, W. H. Butcher. 2, R. Sandham. *c*, R. Stackhouse.

JUDGES.—Mr. R. Teebay, and Mr. Tait.

LOP-EARED RABBITS:

THEIR POINTS AND THEIR JUDGES.

LOUD and many have been the complaints of late concerning the judging of Rabbits at the poultry shows, and if we are to believe in the old axiom, that where there is much smoke there is some fire not far off, we must conclude that these complaints are not unfounded. Indeed, what can be more natural than that men whose hearts and hobbies are simply in the feathered tribe, should feel comparative indifference, and perhaps even contempt, for a fancy in which their sympathies have never been enlisted? and this being the case, can it be wondered at that the Rabbit section should be slurred over, sometimes from sheer impatience and distaste for the task, or from absolute ignorance of the points which constitute the excellence of the specimens? I feel confident that it would pay any committee to offer £1 and 10*s.* for first and second prizes, if they would but let it be known distinctly that a special judge would be appointed for Rabbits, for there is nothing but uncertainty at present; and how can it be expected that an exhibitor will send his Rabbits fifty or a hundred miles or more, spending 5*s.* in entrance fee and carriage, when the first prize is only 10*s.*, and without having (for this is the great consideration), any sort of guarantee that they will be judged by men who understand them?

Now, the points of a Lop-eared Rabbit are well defined and universally recognised by the fancy; but as it appears that they are sometimes lost sight of, it may not be ill-timed to put them down in a concise form, and then say a few words on each point. First, Length of Ear; second, Width of Ear; third, the Marking; fourth, Position of Ear; fifth, the Make and Carriage; sixth, the Eye; seventh, the Weight. As to Colour, it cannot be called a point, one colour being the favourite at one time, and then, perhaps, some other taking its place; for instance, blue and white was once a favourite colour, but now there are only two shows in England where the classes are arranged with regard to colour, and where blue and white is specially mentioned. Perhaps, however, we should be right in saying that at present the colours stand in the following order: —black and white, yellow and white, tortoiseshell, blue and white, grey and white, all self colours being equal, or, if not, grey coming last.

Now, as to the first point—*Length of Ear.*—However the idea first originated, it is certain that during this century the paramount aim among Lop-ear fanciers has been to breed length, and it is astonishing what they have done of late years. A very few years ago 20 inches were thought a marvel, and there are fanciers now connected with the Kent and Surrey Club who remember the first Rabbit that reached the then extraordinary length of 19 inches. It was bred by the late Mr. Baxter, of Whitechapel, and so keen was the bidding for it, that he said he would not take less than a guinea an inch, and it was bought at that figure by the late Dr. Ducheyne. The word "breeding," so far as the lop ear is concerned, means, I conceive, nothing more nor less than Nature turned literally upside down. I believe there is not a wild lop-eared Rabbit in any country, but that they have all come from a prick-eared stock, and been obtained by art, and on the principle of selection. No breeder at all events, will deny that it is impossible to get length of ear without warmth, which goes some way towards proving my position. Take a few ordinary wild English Rabbits, and you will find that their successors in a few generations will, from the enervating influence of warmth and confinement, be ear-lopped (their ears reminding you of the oars of a boat), and after a while they will be perfectly lopped and hang dead down, the confinement, with artificial feeding, giving them a size which you do not see in the wild Rabbit, aided, of course, by a selection of the largest and best in other respects for breeding purposes. But Nature, if you turn her out with a pitchfork, will come back again if you do not watch her. Turn your fine lop-ears into a paddock, and they will soon come to the oar-lop, and you will eventually find your old-fashioned little friends, the prick-ears, back again. I have not seen this theory discussed in any book, but I have certainly heard nothing that at all shakes my confidence in its correctness, though I am open to conviction if any of your more intelligent contributors can enlighten me. However, would guard myself against being understood to say that all prick-eared Rabbits might in time produce lop-ears. I should like to live till this would be the case with Himalayans, which certainly come from hot countries.

To return, after a short digression, to the first point. In measuring for length, it is well to have some wash-leather glued to one end (which we will call the beginning) of the rule, as the finger and thumb of the left hand have then a firmer hold of the tip of the ear without hurting the patient, and if the other end is steadied by a friend, the pulling of the right ear with the finger and thumb is simple; all the indiarubber lies in the 3 last inches.

2. *Width of Ear.*—Lay the rule straight across the widest part of the ear with the assistance of a friend, and pull it what little it is capable of. A well-shaped ear will be wide and round at the end, and this is always considered a great recommendation for breeding purposes.

3. *Marking.*—There should be a white dash on the forehead, a little white on each side of the nose, coming up from the jaw and breast, a very short chain of white spots on each shoulder, and then an unbroken colour on the back right down to the tail, forming what is commonly called the saddle, the belly and legs being perfectly white like the breast. As to an unbroken colour, there must be an exception with regard to Tortoiseshells, where a variegated colour is a beauty; but there must only be white where I have named. There is an exceedingly beautiful stuffed specimen of a variegated Tortoiseshell in the British Museum, presented by no less notorious a

personage than Mr. Calcraft, who, it may not be generally known, was twenty years ago a highly successful and humane breeder of Lop-ears.

4. *Position of Ear.*—The round or convex side should be outwards, and it cannot hang too close to the face, or too much forward.

5. *Make and Carriage.*—A Rabbit should be broad and low in the shoulder, and high behind, always provided it is not low from weak and crooked legs; this gives shapeliness and elegance to its movements when combined with length. The head of a doe should be long and fine, and some even prefer a buck with this characteristic, but some think that, like a bull-dog's, the uglier it is the better.

6. *The Eye.*—This should be large, bright, and prominent, like that of the wild Rabbit. In judging, I should not attach so much importance to the eye in a grey or grey and white as in other colours, as it is always larger, probably owing to their retaining more of the original type, as their colour betokens.

7. *Weight.*—Here the scales are the best judges.

I would now invite some of your more experienced readers, such as Mr. Rayson, "Himalayan," and others, to say something on the "variety" classes, as they would, doubtless, be able to do the subject more justice than I could.—B. Hudson, *Hull.*

COLOURING AND STAINING BIRDS FOR EXHIBITION.

In the capital report of the bird show at Whitby, in "our Journal" of September 23rd, I was sorry to read of another instance of Canary-staining, and I entirely agree with Mr. Blakston, who says, "I wish all societies would banish such offenders, and so stamp out the disease." Acting with determination in refusing the entries of those whose attempted impositions have been detected, is, I consider, an effectual plan to adopt. Good and true exhibitors will then know there is some protection for them. One thing I should like to see carried into effect, that of posting up in every bird-show room in England the names of those who may have committed themselves at any exhibition, and this exposure to be continued for a certain period. There is a law to punish an offender who tries to impose a counterfeit coin upon another person, and I really look upon an individual who defaces Nature's works as the worse of the two. If secretaries of shows, and exhibitors also, have no Act of Parliament to protect them, I think it high time that an association—one general association of all the well-meaning breeders and exhibitors throughout the country—were formed, and then some effectual method could be framed for checking the often-practised artificial-colouring system.

At two of the recent summer shows—one at York, the other at Leeds—I detected three instances of stained Canaries. That at the former place was a most glaring instance, and I never felt more disgusted. It was that of a Clear Yellow Norwich, shown by a Mr. Bailey, with whom I afterwards had some conversation on the York show-ground. He sought an interview, and doubted whether his bird was coloured. I produced a white handkerchief with some of the colouring matter upon it, when he said, "I purchased the bird of a Northampton man, and shall send it back, and I wish to ask you, if he do not return the amount paid for it, will you give evidence should I take proceedings in the County Court for its recovery?" To this I agreed. Now, as the show took place about midsummer, and as I met Mr. Bailey in the Royal Park, Leeds, a month back, and he not having even mentioned the circumstance, I, in justice to the Northampton school, must say that I have never yet found an instance, or even heard of an artificially-coloured specimen being shown by a Northampton exhibitor. The two painted specimens at Leeds were Lizards, "one-year-off," or "out-of-feather" birds, being so doctored as to be made to appear as "yearlings." Before I had done with them the birds bore an odd appearance. I extracted the colouring from one side only, leaving the other side as a contrast. I regret I have not just now the name of the exhibitor of the Lizards. At both shows I posted them up with conspicuous cards in front of the cages.—G. J. Barnesby, *Derby.*

A YOUNG QUEEN WITH A FIRST SWARM.

With regard to the inquiry of "C. H. H.," page 197, I beg to say that it is quite a common occurrence for a young queen to leave with the first swarm, and scarcely a season passes without one or more instances of the kind amongst my own bees. I have already stated how they act in these cases in my former letter on swarming. I have had one this season, and as it may be of some interest to your readers, I will describe it. I had a storified hive which threw off a swarm; I caught the queen (the old one) and returned her to the hive, the rest of the bees following. I then ventilated it; but in ten days it swarmed again, also with the old queen, and I again returned it. Next day it did the same, and both queens came away, but were returned. They repeated the process the day after, and this time with a young queen, and were again put back next morning; they came out again with the old queen, and being again returned, issued twice more during the same day with young queens. As I was now beginning to be tired of so much swarming, I took half the combs, together with the supers and put them in the old hive's place, removing the stock hive with half its combs to a new stance, and by allowing all the bees to return to their old place they were not much the worse, and finished their supers as well as if they had never swarmed, and the old stock soon became strong enough to entitle it to be considered a good stock hive.—A Lanarkshire Bee-keeper.

ATTEMPTS AT BEE-KEEPING IN INDIA.

I am indebted to an unknown friend in the great Asiatic peninsula for a copy of a recent number of the Saturday edition of *The Indian Daily News*, from which I extract the following interesting article.—A Devonshire Bee-keeper.

Amusements of a Naturalist—Bees.

Bees that collect honey are found in almost all countries. And wherever Englishmen go to make new homes for themselves, if they find there are none, or none of the right kind to meet their wishes, they soon manage to get some from home. Bees occupy a very important place in creation, and perform very important functions in rendering fruitful the seed-vessels of vegetables and flowers. In New Zealand, it is said that the Clover taken from home and sown there produced beautiful crops of fodder, but no seed, till the English honey bee was imported. In India there is no lack of honey bees. There are three kinds that are especially interesting. The large bee, that constructs its combs on the boughs of trees, makes a comb about the size of the half of an ordinary cart-wheel. The bee is as large as a hornet, and its sting is fully as poisonous. I began amusing myself with this creature, but I thought it necessary to go about forming an acquaintance with it very cautiously. I thought it advisable, first of all, to understand the extent of its ability to produce hurt. I could pretty well judge of its honey-producing capacities from what I had seen of its comb,—3 inches thick near the bough upon which it was built, and indeed at times thicker if the bough were a thick one, and in the thinnest part where the breeding was carried on, fully 2½ inches in thickness. The upper part, that is to say, about a depth of 4 inches, was occupied with honey; and a full-sized comb would be about 3 feet along the bough, that is to say, comb filled with honey, 3 feet long and from 4 to 5 inches deep. A goodly quantity of sweet-stuff this, to be had for the gathering. The best way of gathering is to get a quantity of rubbish together, put it under the hive, or more properly the comb, and set fire to it in the evening. Bees cannot bear smoke, and there are most alarming tales told about travellers having made fires under trees in the daytime, without first looking up to see if the smoke might be any annoyance to any one up above. I remember an Arab horse-dealer once acting thus imprudently, and almost before his horses were picketed, the infuriated saurungs — that is the native name—began to sting the horses, and in the course of ten minutes every horse fled from the encampment, tearing like mad horses, at every point of the compass; the syces trying in vain every possible dodge but the right one to escape the infuriated creatures. Two of the horses that could not escape early enough died from the stings they received, and of the men several were ill for days. I did not know of the certainty of such cases as this, when I sought to make the acquaintance of the saurung honey-bee. The object I had in view was to domesticate them; and I knew I could not do so unless I could establish a sort of friendship with them. I found a fine large hive near my house, suspended from a large branch on a mango tree. My first object was to get hold of one individual bee by itself. I thought it safer to ascertain what could be done with one before I attempted a number. A marble from a goolail * soon brought down about half-a-dozen, and they were rather at my mercy in that state. I quietly proposed to one that we should make each other's acquaintance; he offered no objection, but when I took hold of his wings he protruded his sting. I said—"Exactly so! what is its value?"—and presented the little finger of my left hand in return. In an instant the bee was under my foot, for with a force which I had not counted upon, the sting was thrust home into my finger. Fortunately it pierced the

* Pellet-bow.

finger side-wise, and the thickness of the skin had saved me from the full effect of the poison; but the burning heat it had engendered in my finger, running right up my arm in an instant, quite satisfied me that I had better let well enough alone, and drop their acquaintance. I had carried an antidote with me, and as soon as I could get the cork out of the bottle, I put a good drop of ammonia well saturated with opium, on the place where the sting was taken out, and that soon gave me relief. I soon afterwards found that the honey collected by this large kind of bee is very coarse and often unwholesome. My readers perhaps will cry, Sour Grapes! Honour bright, however; what I say is correct.

The domesticated honey bee was always a great favourite with me at home, and indeed with my father and mother before me. I remember how often I used to get stung by them in our garden, when as a small boy I would disobey orders, and wilfully go to the hive and watch the little creatures, as they came home with their legs laden with little pellets of brown, green, and yellow pollen, which my mother told me was honey, but which I found when I caught one was not sweet at all, and therefore could not be honey—for which experiment I got a caning. I remember also one cold frosty night, as I got into the chimney corner, how all the household was thrown into confusion by some one rushing into the room, saying that there were thieves about, for that they had heard the rustling of their steps in the stubble field behind the house. There was at once a careful listening by all who were bold enough to venture out of doors; but all was quiet, not a footstep nor the least rustling was to be heard even in the stubble field. My father, however, thought he would make sure by walking round the grounds, and as he went into the garden, he thought in the starlight things did not look all serene about the bee-stall; and sure enough when he walked up to it, there was the heaviest hive out of five carried off. To follow the rogue or rogues on the way to the town was the resolution of all in an instant. But before they had gone half a mile from the farm-house, a man coming from the town assured them that he had met no one since leaving the town, and they all returned to the house. The search was recommenced the next day, and my father hit on the idea of going through the town, and looking after the contents of his hive, which he shrewdly conjectured would be there in some window exposed for sale. He returned home full of joy, for he had found his honey—he knew it was his—there could not be another such a hive, it must be his, the comb was two years and a half old, almost as black as ink, and the honey the best in the world. But the grocer in whose window it was exposed for sale refused to give it up—he had bought it. He did not know the person he had bought it of, but he had to come to his shop again the next night, which was Saturday, and if my father would come and wait inside, he would let him see who he was. All was arranged, and what a rise! The man was the very man that returning from the town, told my father he had met no one since leaving the town. The rest may be imagined. Nothing could be done. The other four hives, however, were at once chained down to their blocks.

I must have been about three years old when these circumstances occurred, and a big boy working on the farm put me up to a way of making experiments far more remunerative than the unloading of the little creatures laden with pollen. He showed me how to hunt out the humble bee, and to rob its nest. The plan was to take a bough of hazel, and thrash the poor bees to death, then pulling the poor creatures asunder at the shoulder, pick out the honey-bag, which then lay exposed. There was no amusement in this, and I never tried it twice.

And now to return to my Indian tale. As soon as I saw my error in hoping to domesticate the large sanrung, I was fortunate enough to find a hive of the true honey bee—like the one at home—located in a hollow mango tree in my compound. In my ignorance of the Indian bee, I concluded it was the same in its habits as our home bee, and therefore I prepared a box large enough to hold the bees of an English hive. The next thing to be done was to get them out of the tree. No one would help me, for all were afraid of the sting. With a good chisel and a hammer I soon managed to open a way into the hive, but while I was doing this the inmates had been singing *excelsior*, and had marched a full arm's length further up the tree. I took out all the combs, and then putting my hand up the tree as far as my arm could reach, I took out a handful of bees, and put them with the comb into the box I had prepared; but I was obliged to give this up, for as fast as I put the bees into the box they flew out again. I therefore yielded to necessity, and gave up that plan of proceeding. I then filled up the hole in the tree, as far as I could, with clay, and fixing my box up upon the tree, made such arrangements that the bees could only get in and out by passing through my box. I hoped by this means to get them into the box with their own comb full of young ones. I was disappointed however, for at five o'clock the next morning, they had all collected outside my box, and were evidently intending to emigrate as soon as their arrangements were matured. I managed to be beforehand with them, for I at once took a basket and whipped them all into it, by the aid of a grey goose-quill, and having got them there, I put a cloth over it, and kept them prisoners till the next morning. They showed their displeasure with my arrangements by beginning to fly out as soon as I opened their prison basket. I now caught sight of the queen, and picking her out, clipped her wings with a pair of scissors. Knowing that the hive was now at my mercy, I put them into a large glass dish-cover, such as is used for protecting cakes and such things. A small piece of new comb was fixed in its proper position, and another day in the dark was to produce great results. It did so, for the next morning on opening the covering I saw that the workers had repaired the comb where it had been injured, and the queen had laid a few eggs, so that I felt quite sure all would now be well.

The colony had become very small. I do not think there could be more than an ounce of bees all together. Bees are a very delicate people, and the least extra trouble or exertion kills them by hundreds. But small as the colony had become, for six days it was very quiet and prosperous, and they had become so accustomed to my investigations that I could take away the glass cover altogether, and the queen herself did not show any great signs of feeling the indignity if I picked her out and put her on my hand—the workers seemed most anxious, and usually one or two would accompany her upon my hand. On the seventh day, all my amusement seemed to be at an end; a servant came to tell me that my bees were on the wing. True enough, there they were, but what was the cause? And the queen without wings; where was she? The cause was at once evident; the ants had disturbed the new colony, and not being to drive back the enemy, they had vacated their works. The great question was, where was the queen? After hunting for her for some time, I found her with only two or three attendants, and one or two ants were upon her. I picked her up and put her in a safe place where the workers could get to her, and having secured her person, I set to work to drive off the ants. They had attacked the young grubs and had killed some of them, to my great distress. At length I got them all clear of the comb, and having put the feet of the table into water, I thought all would be safe for the future, and put the colony back again with their work. Things did not, however, at all please them. I fancy an odour of the horrid little ants was left upon the comb, for every now and again, an offended bee would buzz in the greatest anger, twizzling itself round and round for a second, and then rush off to another place. A great reduction in numbers had taken place, and at noon every day the few that remained took wing—I kept them in my room, where I could constantly watch them—but I usually interfered in time to prevent the vacation of the hive. At last, not caring much if I did lose them, I thought I would let them go on to the end, and see the result of the panic whatever it might be. The queen was evidently ill, and ceased to rush about as she usually does when there is excitement in the hive, uttering the long-continued *pe-e-e-e*. The workers all flew to and fro in and out of the hive, and to my astonishment one of the workers took up the queen, carried her out, and fell with her upon the grass. This was the end of the queen and of my colony of bees, for the queen died that same day, and I took no further notice of the workers.

I was not long left without other hives, for the natives of the city had taken an interest in my amusement; the extempore poets made and sang songs about me and my bees, and I had friends on all sides who daily brought me news of new hives. My amusements now formed a reason for morning and evening exercise, either on foot, or on horseback, or by buggy, and the boys of the city took great interest in the little folk that afforded me amusement. I now took a number of hives in hand; one I kept in the hollow tree where I found it. I brought it home from a distance of four miles on a cart at night. I filled up the aperture by which they passed in and out, cut off the timber which was not wanted, and so rendered the tree manageable. This hive did very well in its new locality, but I could only look at them going in and out, and amuse myself by observing their wonderful industry in working. A farmer who had heard of the eccentric sahib who tamed bees and made them understand him, came and offered me a good strong hive, that had shown decided musical propensities by taking up their residence in a tom-tom.* This was a great gift, and I went by moonlight, and brought it home with great pleasure. I so manipulated the earthen jar over which the skin was drawn to make a tom-tom of it, that I put windows in it, and so got free liberty to look at my friends by night and day. Then I made a door, and so in time got free admission to make experiments. After watching for hours during several days, I managed to see the queen laying her eggs, nearly close to the door. This was just the ticket. I secured her, and put her in a wineglass with a piece of muslin over it. And then I waited to see the result. Again and again I watched for three hours, and no panic, nor yet confusion; then I thought there was a slight change in the sound from the workers; then there followed a flying out and immediate return by some; their work ceased, and in place of its merry hum there was a sort of hushing sound; then a rush here and there in disorder, and finally a general rush to the aperture of the hive, and most of the bees took wing. I knew I was master of the position, so I waited patiently till the panic subsided, and when all was quiet in the evening, I opened the door to return her majesty to her throne and people; but as I was putting her in, I observed a lump of bees about as large as a hen's egg on the comb facing me. I, therefore, put the queen back to the wineglass again, while I examined this unusual appearance; and I was well repaid for my trouble, for the little creatures seeing their sad misfortune, had begun to make a large cell for a new queen. I at once decided to keep her majesty a prisoner, to see whereunto this thing would grow. By the next morning the cell was complete, and all attention was given to the grub out of one of the ordinary cells that was in it. The new cell

* Native drum.

was placed perpendicular on the face of the comb, and I have since observed that queen's cells are always in a perpendicular position. I could not afford to let matters go too far, because I should have lost my queen by so doing, and the new queen would have been unfruitful for a long time, if not altogether barren, inasmuch as she must have gone abroad among her neighbours for a royal consort. There were at that period no drones in the hive. Within three hours after the queen was returned the intended new queen was neglected, and the next day the disfigurement on the face of the comb had disappeared. As the spring came on, I saw the combs day by day enlarge, and immense numbers of drones—males—came out, and in due course queens' cells were formed upon the lower edges of the combs, to the number of twenty; and by the middle of February I had seen eight swarms fly off from this one hive. Some of the swarms were very small, and in the end the hive was so weak that moths got in and laid their eggs in the comb, so the few that remained were eaten out of house and home by the grubs of the moths, which burrowed the comb in every direction, filling them with cobwebs wherever they went.

Although I was much interested in my amusement, yet I must confess to great disappointment as to the commercial results. I had hoped that we might have nice little rows of bee-hives in our gardens in India, just as one can have at home, with results as sweet and as paying, but so far as I could see, the strong instinct for emigration and colonising in the Indian bee seemed to forbid such a result. As I could now get plenty of bees, I resolved for one good experiment in the interests of commerce. I thought if I could put five or six hives together, I should have a good strong one to begin the experiment with. So now I had a six-dozen beer chest prepared for a hive, and a noble hive it was. The thing to be done was to fill it with a working colony. A Mahomedan gentleman gave me free access to his forest and zemindary, allowing me to take any liberty I pleased with those trees that had bees in them; from cutting off a limb to felling the trunk. I selected my trees, and the first was an old jamman pollard. Two good bharrs (woodcutters) soon brought it down for me, and the bees being within 1½ foot of the bottom, I was able to reach them pretty well. But, do what I could, the bees would not remain in my hive, as fast as I took them out they flew back again into the tree. I ordered the tree to be split open in the middle—as soon as it was opened out, "horror of horrors," there lay coiled up a large khoreit snake, and every time my hand had gone in, it had gone over this snake. It makes me shiver when I think of it now, and the sight of those lookers-on who were with me is a picture on my memory still. My honest and good friend, the Mahomedan, would allow me to cut no more trees, unless I promised in future to see what sort of a nest I was putting my hand into. I of course gave the promise, and kept it. I saw my friend twenty years after the above, and he still retained the clearest possible conviction of the goodness of my kismut. May his shadow never grow less!

I got together six hives without any further trouble, and then, how were they to be united? I made short work of it, by mixing a solution of sugar and water, and poured it into the hive that was to be united with the bees already in the new hive. I easily managed to get the queen, and the workers were then taken to and claimed by the old stock as a matter of course. And thus I filled my magnificent hive. It was a sight to see them work. I had the hive in a house, with a hole in the wall for going out and in, and I had doors and windows for observation. I would have no tricks with these to interfere with the commercial results. My heart rejoiced, as day by day and week by week, I saw the combs grow and the inmates increase. To show their watchful care and strength, I may relate that a death's-head moth had the temerity to enter an air chamber I had made for ventilation; there he was waxed down to the board, and made a mummy as a warning to all such intruders. As the inmates increased in number, I was alarmed at the unusual heat engendered, and I did all in my power to cool them down. It was all useless; for the heat went on increasing, and the ventilators were covered with an immense amount of mixture that collected in large drops as the vapour condensed, and soon, to my utter despair, I saw combs forming for drones, and these of course were followed by queens' cells. I did all in my power to put an end to both, but the colony outwitted me, and one day I had the misfortune to see my splendid hive denuded of more than half of its population. I caught and killed the old queen who was leading them off, and the queen being killed the bees returned again to the hive. The excitement never subsided, and the next day many took wing again. I saw the bees were angry, but I did not expect the mischief which followed. I had a very tame, long-tailed, black-faced, white monkey—a longoor—and my angry bees stung him to death before I was aware of his danger. On the third day from the previous swarming, a new queen led them off again, and this time flew away at once. I now gave up all as useless and hopeless, and prepared for one final experiment, little suspecting the good fortune that awaited me.

I removed all the combs, except one very nice new little one, and sought for and removed the queen. My object was to see how long the workers would hold together and keep to the hive after losing their queen. At first, of course, all was confusion; but they soon began to collect pollen, though their wax was all wasted. And although the pollen was collected and brought home, very little skill was shown in storing it, and most of it fell in little oblong flakes at the bottom of the hive. After six days, I was surprised to find a number of eggs on the board at the bottom of the hive. I could hardly believe what I saw. I was quite sure there was no queen, and yet there were eggs. I made a closer search, and more astonishing still, nearly all the cells in the comb I had left them had eggs in them; not one egg in each, as the queen carefully lays her eggs, but in one I counted a dozen, and there was every proof of a most careless and indiscriminate laying. I was determined to give up any time and attention that might be required to fathom the mystery; and in a short time, I saw the common worker bees laying eggs. Of course I was most anxious to see what the final result of this new fact would be. I soon saw that the eggs were fruitful, for the little worm floating in jelly appeared in some cells the next day, and things went through their usual course to the closing-up of the cells. My patience could not wait for the flying insect to come out, and I opened a cell and took out a young bee nearly ready to come out and two days afterwards, I was gratified by seeing some half dozen little black drones fly out with their usual heavy buzz. This was highly satisfactory as far as it went. It was a fact, not before known, that the workers could turn out fruitful. There was no hope for the hive, for the males do not work. Nothing more was to be learnt, and my hive died out in a short time. And here was an end to my amusement with bees.

OUR LETTER BOX.

London Poultry Show.—Mr. Quick, 26, Henry Street, St. John's Wood, Hon. Sec. of the St. John's Wood Fancy Rabbit Society, expresses his willingness to co-operate. [We have so many letters advocating a metropolitan show, and tendering subscriptions, that we have no doubt if a committee were formed of well-known men, it could be effected without difficulty. We shall publish some communications on the subject next Thursday. Since the above was in type we have been informed that a meeting will be held on Tuesday, October 5th, at 3 P.M., at Evans's Hotel, Covent Garden, after the sale at Stevens's Rooms, when all who are interested in a metropolitan show are invited to be present.—Eds.]

Cochin Hen's Leg Ulcerated (*W. C.*).—Wash it with warm water, and then apply mercurial ointment daily, sewing a piece of linen rag over it.

Incubators (*M. Dene*).—We do not know the name. You had better advertise that you have one to sell.

Brahma Pootras (*H. W. G.*).—We have no information about the book.

Ground Oats (*Julia*).—Mr. Agate, Slaugham Mills, near Crawley, Sussex, grinds oats for poultry. If any one near you has a handmill for crushing oats for horses and would allow you to crush oats for your poultry in it, that would answer equally well.

Turbits (*T. W. Eckersly*).—Turbits were formerly preferred smooth-headed, then shell-crested, and now point-headed. You will obtain some point-headed birds in the way you propose to breed. The shoulders, so called, in Turbits should be of one colour, the rest of the bird pure white. The red-shouldered birds should be of a deep rich colour.

Pigeon Cankered (*Experientia docet*).—When the cheesy matter forms it is usually a bad case. It becomes better and disappears for a time, but always returns. For the snoring noise you mention, we always give a pill nightly, made of equal parts of tallow and camphor.

Goldfinches, &c., (*W. H. Horne*).—The direction you ask for is, Mr. E. Hutton, Garden House, Padsey, near Leeds.

White Turtle Dove (*May*).—The ordinary coloured pair of Collared Turtle Doves from which you have bred a white young one must have been in a former generation crossed with the white variety, for says Mr. Brent, there are such birds, "There is a very pretty and quite white variety which is, however, much rarer." Unless we greatly mistake there are some of these white Doves in the Crystal Palace.

Hive Tenantless (*A. S——k*).—The probability is that the young queen met with an accident during one of her wedding flights, or if your stocks are placed near together that she mistook her hive, on her return, and was killed. In either case there would be no means of replacing the lost queen, and the colony would gradually dwindle away until it became too weak to protect its stores which, therefore, would ultimately become the spoil of marauding bees and wasps.

Berkshire Pigs (*Ignoramus*).—We cannot inform you where they can be purchased, but certainly at Reading or Newbury market. We do not know what kind of pot you mean; we always employ small firkins.

Tobacco and Snuff (*H. M.*).—We know of no separate work on their manufacture. There is a lengthy notice of the subject in the "Penny Cyclopædia."

Tomato Jam (*A Lady Correspondent*).—"Take ripe Tomatoes, skin them, and put them in a moderately warm oven for several hours, until they will pulp without difficulty. Squeeze through a fine sieve, so as to obtain the pulp without the seed; to every 4 lbs. of fruit add 2 lbs. of loaf sugar, the juice of a lemon, and a little crushed ginger; boil in a preserving pan until the juice will set, put the jam into jars, and fasten down in the ordinary way.—J. Perkins."

POULTRY MARKET.—September 29.

Michaelmas is no longer what it was. Not one Goose is eaten now where a hundred were eaten formerly. Nevertheless, it is still a tradition, and at the recurrence of the festival, the supply was small this year, and full average prices were realised. It may be said of Geese as of Turkeys, that given equal and good quality, their value increases with their size.

	s. d	s. d		s. d	s. d
Large Fowls	3 6	to 4 0	Partridges	1 3	to 1 6
Smaller do	2 6	3 0	Young Grouse	3 0	3 6
Chickens	1 9	2 0	Pigeons	0 8	0 9
Geese	6 0	9 0	Hares	0 0	0 0
Goslings	0 0	0 0	Rabbits	1 4	1 5
Ducks	2 0	2 6	Wild do	0 8	0 9

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 7—13, 1869.	Average Temperature near London.			Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
7	Th		63 8	43.8	53.8	21	12 af 6	24 af 5	22 af 8	48 af 6	2	12 13	280
8	F		61.7	42.4	51.8	22	14 6	23 5	43 9	20 7	3	12 29	281
9	S		60.4	42.5	51.4	24	16 6	20 5	1 11	58 7	4	12 46	282
10	Sun	20 Sunday after Trinity.	61.6	43.5	52.6	24	17 6	18 5	after.	42 8	5	13 1	283
11	M	Oxford Michaelmas Terms begins.	61.7	42.6	52.2	23	19 6	15 5	12 1	32 9	6	13 17	284
12	Tu		60.0	41.5	50.2	23	20 6	13 5	2 2	31 10	☽	13 31	285
13	W	Meeting of Royal Microscopical Society.	60 6	41.9	51.2	22	22 6	10 5	43 2	31 11	8	13 45	286

From observations taken near London during the last forty-two years, the average day temperature of the week is 61 4°; and its night temperature 42.6°. The greatest heat was 77°, on the 9th, 1861; and the lowest cold 25°, on the 11th, 1860. The greatest fall of rain was 1.00 inch.

SMOKE, AND ITS EFFECTS ON PLANTS.

OF the various papers read at the Horticultural Congress at Manchester, there was one on the effects of smoke on vegetation, which deserves further inquiry, as smoke is an evil against which the best-directed skill can contend with only partial success, and notwithstanding the laws general and local bearing upon the nuisance, it is still on the increase. The Legislature may compel manufacturers to employ furnaces consuming their own smoke, but the chimneys of private dwelling-houses send it forth in quantities which yearly increase with the population and the accumulation of wealth. It is, too, somewhat unfortunate that in those places where steps have been taken to abate the evil, or at least to draw attention to it, the cause of vegetation has been but little urged in comparison to what has been said of human comfort and general appearances; even the claims of architecture have been put forth in advance of those of vegetation, but, fortunately, where injury is done by the blackening smoke, its effects being more visible on the vegetable world, those complaining have in certain cases obtained damages when their case has been investigated in a court of law. The number of sufferers who obtain redress in this way is so small that the majority of us are content to grumble at the grievance as one which cannot be helped. So, in spite of all that has been said and promised to be done, the smoke nuisance goes on increasing. Possibly some day a less costly and troublesome mode of diminishing its evils may be found, and its application to dwelling-house fires enforced by law, as it is now in some cases in those of factories and steam-engines; but until something of the kind be done, we must be content to try to mitigate the mischief by whatever means we can.

The injuries caused by smoke to vegetation have been long known, and remedial measures of many kinds suggested, but with little effect; in fact, the only practical cure for the evil is to divest the smoke of its hurtful tendencies, and to some extent this has been done, but not until much damage has been inflicted, not by coal smoke alone, which of itself is by no means so deleterious as many suppose, but when that smoke is tainted with the fumes of poisonous chemicals. Witness a plantation of fine large trees, mentioned by Mr. Green, near Widnes, on the borders of the Mersey, one-half of them or more standing like skeletons, the others fast approaching that condition, presenting a spectacle that cannot be looked at without some feeling of awe, so desolate is the scene. Even here vegetation of all kinds does not suffer alike, some plants struggle to keep up an appearance of life, while others are still less affected; but Mr. Green having described this, it need not be referred to again. The rising town of Widnes can hardly be expected to possess a horticultural society; on the contrary, vegetation shrinks from its borders, and its smoke-stained walls can never hope to be draped in the cheerful garb of floral beauty in the shape of climbers, or clad with the more sombre yet equally interesting Ivy. The smoke and vapours of its chemical works, however purified by all the efforts of skill and science, continue in some degree to escape, all the modes adopted to prevent injurious results being ineffectual. The evil, however, is certainly mitigated, and perhaps may eventually be more so, but the volatile character of some of the ingredients employed leaves small hopes of entirely remedying so subtle an evil. In the early days of such manufactories litigation often followed damages done to farming and other crops by the smoke emitted from chimneys, where soda and similar substances were manufactured. The leaning that jurymen had thirty or more years ago towards the sufferer is similarly carried out at the present day by those engaged in assessing damages for a railway accident, and the object, if not the justice, is certainly good. As regards the manufacture of articles causing a poisonous vapour, it sharpened invention, and caused the adoption of preventive measures: and in the case of railway accidents, heavy damages now and then are followed by more care on the part of the companies' servants. Probably coal smoke may eventually be no longer allowed to pollute the air, and shrubs and trees may again rejoice in that natural clearness which in the neighbourhood of towns they have so long been strangers to.

Smoke tells most disastrously on evergreen shrubs and trees, for those which are deciduous shed their foliage when smoke commences to be more abundant—namely, in the winter, and they do not put forth leaves again until the evil is somewhat abated in spring. Even in factories where the consumption of coal and other fuel is the same all the year round, the higher state of the barometer prevents the smoke doing so much harm as at other times, so that it is not unusual to see such plants as Wistaria sinensis, Laburnum, and Virginian Creeper, looking fresh and well against walls in the heart of London in May and the early part of June. The stems of these plants, however, are crusted deeply enough with the sooty matter. Some annuals of robust growth also thrive better than others in similar places. I have seen Tropæolums growing in very crowded quarters, and have also seen them within a stone's throw of the ocean; but ornamental shrubs capable of withstanding the smoke and dust of great cities are few indeed. The Aucuba is the best, and the appearance it presents there differs widely from that which it has in healthy country districts where the soil is of a suitable kind. Amongst trees that endure ordinary coal smoke best the Lime and Ash are as good as any, being both late in coming into leaf, and early in shedding their foliage; but the number of trees and shrubs that thrive well under such circumstances is so small that the most common are acceptable when they can be coaxed to grow. I have seen the common Elder made a pet of where scarcely anything else would live, and many a dull dusky corner is brightened up by a few plants of the common Marigold planted here and there without regard to order or arrangement; in fact, robust-growing annuals seem to do best under such circumstances.

Those having the management of shrubberies and similar

places in open country districts have but little idea of the dirt adhering to every branch and shoot of a plant growing where smoke prevails, and, I may add, even farming crops have in some degree the black stamp of the place they have been grown in. Hay-making is an employment which produces but little dirt on the clothing of those engaged in it, and the same may be said of harvest work; in fact, the handling of sheaves of corn has been supposed to have a cleansing effect on the clothing, but the reverse is the case in the smoky districts; there, both hay and corn impart their sootiness to the garments of those handling them. In families, also, when that evil day to the male portion of the community comes round—the washing-day, the prevalence of blacks creates no slight amount of irritation to the lady of the house, and consequently discomfort to all others, all owing to that everlasting smoke. This imparts its blackness to everything around, not omitting the animal creation, for do not the sheep in the London parks look smoke-stained?

With regard to mitigating the evils resulting to vegetation from smoke, I fear nothing can be done except abating the nuisance at its source, in other words consuming the smoke where it is created. Most likely this will be more strictly enforced where deleterious substances are manufactured, but even there it is difficult to obviate all mischief. Many years ago it was thought that very tall chimneys would carry the obnoxious gases so high as to become harmless by the time they reached the surface again, but this was found not to be the case, and other remedies had to be applied. Possibly some chemist among your readers may suggest cheaper and more effectual modes of purifying the fumes from manufactories, as the evil requires to be remedied as much as the deposit of sewage in certain places. Let as great a complaint be made of smoke and a remedy will follow.

In conclusion I would advise those planting groups of trees and shrubs in town squares and gardens to make sure of perfect drainage; indeed, a dry, sandy, or gravelly soil would seem best, for plentiful washings of water would do no harm to the roots; and as the water-supply of towns is generally so ample as to admit of a bath being frequently given, much good will result, especially if large quantities of water can be used without soddening the ground, which would be the case if the soil were too stiff. A good washing now and then might enable many evergreens to thrive which now will not do so, but it is vain to expect they will compare with those grown under more favourable circumstances. Once let the smoke nuisance be abated, and a better state of things will follow.—J. R.

NOTES ON ROSES—THE MANETTI STOCK.

I offer a few notes on the Roses in cultivation here; but before doing so, a question having arisen in your pages about the Manetti stock, the editorial request must take precedence.

My Roses are known in this neighbourhood, and the reason they have become so is, I suppose, that they are sufficiently well grown to attract attention; but the mode of growing them has really been the cause of their receiving the notice bestowed upon them, and this is due to the Manetti stock more than any other assignable reason. The soil is of the lightest description; and the attempt to grow Roses upon it successfully, or rather satisfactorily, after several years' trial with the Dog Rose as a stock—that is, as standards of whatever height, resulted in disappointment. Hence followed the wish to try some other method, and for the last eight years the gradual substitution of the Manetti for the Briar has, with very few drawbacks, more than answered the expectation formed of it.

The question of Manetti *versus* Briar has been so frequently ventilated in these pages, that it is with some surprise that I see it again brought forward. The short reply of Mr. Radclyffe in page 247 literally contains *multum in parvo*. There is no need to repeat more than an emphatic endorsement of what is there stated. The Manetti stock is not only *not* an imposition, but is also a great boon to rosarians who have light and poor soils in which to cultivate their Roses; otherwise they must give over the attempt, the propagation of Roses on their own roots being so slow and uncertain as to deter the most persevering. If the Manetti stock has proved successful in a commercial point of view, it is owing to the increasing confidence in it, and the growing appreciation of its merits; and it is not too much to say that at least the majority of those who have adopted it with success will ever regard with the highest respect the name of Mr. Rivers who introduced it, and of Mr. Radclyffe who has so long and ably urged its adoption.

In giving a few jottings on Roses, chiefly of the older kinds, I shall omit mention of many varieties which are now thought not above mediocrity, but which, nevertheless, I have not yet sufficiently hardened my heart to cast out. This process of hardening, I suspect, is with many of us somewhat slow, and with me it is a one-sided process too; for however slack I am in rooting out plants that have cost some amount of care and yielded only a moderate degree of gratification, but which after all are below our standard of excellence real or ideal, I am apt to complain loudly to some of our principal Rose nurserymen of their overcrowded catalogues.

A Rose that produces, season after season, under all circumstances, an abundant or fair supply of bloom of good colour, form, and size, with a vigorous habit of growth combined with hardy constitution, must be marked first-rate. Such are Charles Lefebvre, Jules Margottin, Gloire de Dijon, and Céline Forestier; and very closely following them, for it is difficult to draw a sharp line of demarcation, are Senateur Vaisse, Madame Victor Verdier, Maréchal Vaillant, Marie Baumann, and Prince Camille de Rohan. These I rank as the very best of Roses on account of their constancy every year. Senateur Vaisse does not grow so strongly as Madame Victor Verdier, but is splendid in colour, and scarcely surpassed in form. Nor is Prince Camille de Rohan so perfect in form and habit as could be wished—in fact, it is rather slovenly in the latter respect. Gloire de Dijon and Céline Forestier grow best on the Briar; all the rest have been far superior on the Manetti stock, although Charles Lefebvre, Maréchal Vaillant, and Madame Victor Verdier will make good heads as standards even in this light land.

Those Roses of the Remontant class (Hybrid Perpetuals), which are constant every season, are still few in number; and if the abovenamed are not all—and they are not—it will at least be conceded that they are the best. Very many that have proved good in one season too often show defects in the succeeding one; and some disappointment has been occasioned this year by several prominent failures, as Alfred Colomb, Marguerite de St. Amand, John Hopper, Pierre Notting, and Leopold Premier. Another year will probably remove the disappointment, and they will again hold a first place. Not quite so variable, but still showing evidences of changeableness, are Camille Bernardin, Maurice Bernardin, Beauty of Waltham, and Adolphe de Rothschild, all of which I rank among our best crimson scarlets.

Of the darker crimson Roses, none have been more beautiful in rich glowing colour this year than Lord Macaulay, Horace Vernet, Duke of Wellington, and Xavier Olibo. The first two might almost be ranked among the very best, being quite full and of fine form, in addition to having intense colouring. The other two are remarkably attractive, but not quite full; and Xavier Olibo has here frequently been rough and unfit for the exhibition stand. Somewhat inferior to these, but yet good, have been Jean Cherpin and Souvenir de Comte Cavour, while Duc de Cazes and Monsieur Boncenne of like colour have been utter failures.

Duchesse de Caylus and Exposition de Brie have been the best of what may be called the crimson carmines; the former rather small but of exquisite shape; both are tolerably constant during successive seasons. Madame Caillat and Dr. Andry have been invariably good, but appear rather dull in colour by the side of the brilliant kinds named above. Antoine Ducher has not at all realised the pompous description of it when first sent out. Thorin, too, is surpassed by others of its colour.

In no strain of colour have shortcomings been more conspicuous this season than in the rose-coloured varieties. Comtesse de Chabrillant, La Ville de St. Denis, Comte de Nanteuil, and Gloire de Vitry have not expanded their blooms with the certainty that has hitherto characterised these kinds, although considered among the best of their colour. John Hopper, as before mentioned, has too often put on a rusty coat, which spoiled its good looks. Madame Fillion is a brilliant Rose when it can be grown, but here it fails, it will not grow. Two indifferent blooms from three plants in one entire season are not enough to satisfy the most moderate rosarian. Anna Alexieff is a very pretty garden Rose that blooms abundantly, and has this year maintained its character. I still keep Madame Hector Jacquin on account of colour and distinctness of form, although defective in some respects—for instance, not being sufficiently remontant.

Of light pink Roses, Mdlle. Thérèse Levet has been superb. I have not had it long enough to pronounce a decided opinion, but apparently it bids fair to rival Marguerite de St. Amand, unless this beauty should prove more constant than she has this year. Charles Verdier will not open. Charles Rouillard and Comtesse de Jaucourt are worthless in this light soil, although

they have had high cultivation. Semiramis has, on the other hand, been very beautiful, and by no means showing the coarseness that has been attributed to it, such as is often seen in Madame Boll, which I have almost discarded.

Light and white Roses with the constitution of some of the crimson kinds are still a desideratum. La Baronne de Rothschild appears to be a step towards it. Caroline de Sansal is still one of my best Remontants, and Mdlle. Bounaire the most beautiful—it grows satisfactorily here. Souvenir de Malmaison and Acidalie are yet unsurpassed; the former has bloomed profusely throughout the summer. Mrs. Rivers, Queen Victoria, and Madame Vidot are Roses that always please but never satisfy the rosarian, unless he has favourable soil for their culture. I doubt whether Miss Ingram will do more. A word of praise may be said for Princess Mary of Cambridge, Mdlle. Annie Wood, Mdlle. Mary Rady, William Griffiths, and Baron Gonella.

Of newer kinds there is not much to say. La France is pretty and desirable, perfectly distinct, and free-blooming. It will be seen whether this variety will produce a progeny leading a step out of the "rut." Marguerite Dombrain will not hold a prominent place long. Merveille d'Anjou, Madame Barriot, Madame Pulliat, Baron Haussmann, Souvenir de François Ponsard, Souvenir de Mons. Boll, President Willermoz, and Curé de Charentay have as yet shown nothing to recommend them—more than one of them quite the contrary. Madame Marie Cirodde is a most vigorous grower with large rough flowers, the reverse of the petals more deeply coloured than the upper surface, a peculiarity that few besides Rose critics will notice. Neither Paul Verdier nor Miss Ingram are Remontants, and though very good, by no means surpass those grand old favourites Charles Lawson and Blairii No. 2, which they somewhat resemble but will never supplant.

There are a few Roses that yield, year after year, flowers that "when viewed aright must be seen on the living plant," but are apt to be pooh-poohed by many Rose-growers. In this category I place Empereur de Maroc, whose compact velvety maroon is not yet equalled by any other Rose. Eugène Appert, again—observe the young foliage of this Rose with its peculiar but delicately reddish-tinted leaves; the rich scarlet of the flower seems to have infused itself not only into the leaves, but into the very wood of the plant. Général Jacqueminot, too, shows his ruddy petals conspicuous among a host. We all like to see the colour of a Rose and to inhale its fragrance—the "old General" has both. Triomphe de Paris is a favourite, because with Gloire de Dijon it is the first to expand its flowers in May, and the last to go out of bloom in November.

I have now contributed my quota. May I ask others to do the same, that we may compare notes?—Adolphus H. Kent.

CUCUMBER CULTURE.—No. 10.

Insects.—The most common and hurtful is *thrips*. There is no better remedy than fumigation with tobacco. A calm evening should be chosen; the lights covered with mats or canvas, so as to keep the smoke as long about the plants as possible, and the foliage should be dry, though the floor and other parts of the house should be wet, to counteract the drying influence of the fumigation. Care should be taken to deliver the smoke cool, and not directly upon the plants, if possible. If they are in a pit or frame, there will be no necessity for any moisture beyond that which arises from the soil. The atmosphere of the place should be filled so full of smoke that the foliage cannot be seen from the outside. The fumigation should be repeated on the next night but one, keeping the place close and moist in the interval, but avoid syringing the plants. Fumigate again whenever the insects appear, and before the foliage is to any extent damaged.

Red spider should be guarded against by maintaining a moist atmosphere, and by other preventive measures. The walls and hot-water pipes should be coated with sulphur brought to the consistency of paint, by the addition of a solution of 4 ozs. of soft soap in a gallon of water. This should be put on when the plants are turned out, or soon afterwards, and the application may be repeated when the sulphur ceases to give off its fumes. The evaporation troughs may be kept full of guano water of the strength of 4 ozs. of guano to the gallon, and the floors sprinkled with the same, but of a strength not exceeding 2 ozs. to the gallon of water. Another good preventive is syringing with soot water made by stirring up a peck of soot in thirty gallons of water, using the clear liquid.

In cases of actual attack the above measures should be resorted to, for they are remedial as well as preventive. Pipes should be coated with sulphur after they are heated to 160°, or the water heated to between that and 180°. Repeat the painting until the house is quite full of sulphur fumes, and the air becomes oppressive to the lungs. After coating the pipes with sulphur, it is well to sprinkle them lightly with water for a short time, so as to fill the house with vapour. The house should, of course, be shut up closely, and in the morning a good syringing should be given. This, repeated a few times, will effectually destroy red spider.

Plants in frames are not so easily freed of red spider. I find, however, that coating the inside with the sulphur paint (not allowing it to touch the leaves, as every spot on them made by the brush will certainly destroy that portion, on account of the soft soap with which it is mixed) will destroy red spider, if the frame be shut up early in the afternoon, and a gentle sprinkling of water be given. The temperature, however, ought not to exceed 100° after the frame is closed. In severe cases, the plants may be syringed with sulphur, dissolving 1 oz. of gum arabic in a quart of water, and then adding sufficient flowers of sulphur to bring the whole to a paste, which, when well stirred up in three gallons of water, may be syringed over the foliage between 3 and 4 P.M. on a fine day, and the lights drawn on closely. On the following day the plants may be lightly sprinkled with water at the same time, and the lights closed. To prevent the insect spreading, the leaves worst infested should be picked off and burnt, thus not only destroying great numbers of the perfect insect, but a host of eggs. These remarks apply to thrips as well as to red spider.

Aphis occasionally attacks the Cucumber plant; destroy it by fumigation with tobacco smoke.

Diseases.—*Mildew* sometimes makes its appearance. It yields to dusting the leaves, stems, and fruit on all sides with flowers of sulphur. In houses the readiest plan is to paint the pipes with sulphur, as for red spider.

Canker.—This is not very common, and is a result of too great moisture in the atmosphere or soil succeeding continued dryness. It mostly occurs when plants are over-vigorous. It is confined to the stem, generally near to the collar of the plant—a part which should be kept more thin of leaves than the other parts, and not wetted in watering. The remedy is to clear off the leaves that deprive the cankered stem of light and air, and not to wet it. No more water should be supplied than is needed to keep the foliage fresh, and an abundance of air ought to be given. The parts affected ought to be rubbed until dry with quicklime, and then dusted with finely-powdered dry charcoal, repeating this proceeding as long as the ulceration continues, and if it cease for a time, it will return in a few days, unless the treatment be less forcing. Cankered plants are not long-lived; indeed, it is rare that their existence can by any mode of treatment be prolonged beyond a few days or weeks; but in most cases the above treatment will preserve the plants until the fruit be swelled off, and others can be raised to take their place.

Canker is sometimes caused by the use of unsuitable soil. Very rich soils induce excessive vigour, necessitate frequently stopping and thinning the shoots, and both stems and fruit are attacked by canker. Neither Cucumbers nor Melons do so well in calcareous soils as in some others; soil from freestone is in every respect preferable to that overlying limestone.

Gumming or Extravasation of Sap.—The causes of this in the Cucumber are excessive vigour, and the contraction of the sap vessels. If an excessive amount of nourishment is furnished by the roots, the sap being formed more rapidly than the vessels can take it away, there is an exudation of gummy matter both from the stems and fruit, and the latter become deformed and valueless. The only remedy is to prune little, to give more air and warmth, so as to assist the circulation, to remove part of the soil, and replace it with some which is poorer or more sandy. Gumming is most common with plants in frames late in the season, when the roots are in the dung of the bed. The atmosphere is then more moist, and the heat being less, the elaboration of the sap is much slower than in summer under powerful sun. I have known a lining of hot dung to the sides of the bed and frame entirely put a stop to this disease, the plants being watered sufficiently, but no more. When contraction of the sap vessels is the cause, there is a swelling of the stem or fruit immediately above the place of discharge. It is usually a result of weakness, and there is no remedy but stirring the surface soil, and replacing it with fresh, the application of more warmth to the roots by linings to the bed, or bottom heat, and a careful reduction of the shoots—it must be done cautiously, or we may have extravasation in

its worst form. The first cause of gumming is known by the over-luxuriant growth, and the second by the comparatively slow and weak growth.

Bitterness of Fruit arises from an imperfect elaboration of the sap. The neck is invariably more bitter than any other part of the fruit. The evil is in most cases removed by an increase of temperature, and keeping the shoots less crowded, so as to expose them more fully to light. The quicker the fruit is swelled the sweeter, crisper, and more wholesome it is.

Plants Declining.—All the evils named are insignificant compared to that fell disease which of late years has been a cause of great anxiety and annoyance to the Cucumber-grower. Plants that appear healthy and are producing or promise good crops, go off in a day or night. It has been ascribed to soil and numerous other circumstances. I have tried various means to avert the disaster—such as fresh soil, change of seed and variety—without effect, the plants dying off as before, and without any other warning than their appearing to be at a standstill for a few days; the leaves not enlarging, the shoots not elongating, nor the fruit swelling as they ought. Cuttings taken from plants in that state perish like the parent, and the roots do not survive the tops. It attacks plants in houses and in the open ground, in poor soil and in rich, in dry soil and in wet. When it once appears nothing seems to arrest its progress. Like the Potato disease, it comes again when we think we have found out a way of warding off its attacks. All we know of the disease is—First, it rarely attacks plants from October to June, seldom those grown in pots or from cuttings, and not often until the plants are of a size fit for bearing, but most commonly when they are beginning to fruit. It is most prevalent from June to September, and especially in the last-named month. Fresh, sweet soil not of a rich nature seems least favourable to it; rich and wet soils appear to encourage it. Secondly, it generally makes its appearance when, after dry hot weather, the atmosphere becomes cool and moist and continues so; the vegetation of the plants then becomes inactive, the leaves wither, and the plants die. Thirdly, it does not confine itself to the Cucumber, but extends to the Vegetable Marrow, whose leaves go off in spots like those on Potato leaves, unaccompanied, however, by the peculiar odour given off by a field of Potatoes.—G. Abbey.

AUTUMN CROCUSES.

Why is it that we see so little of those charming plants the autumnal Crocuses? I have tried to procure some of those choicest of Nature's gems in days gone by, but I tried in vain. Some time ago I made application to a leading firm for a supply of some of those enumerated in their list, but the reply, "We are sold out," reached me instead of the roots. Time went on, and again I applied, but, judge my surprise, when I expected to have received my parcel of bulbs, in their place I received the information, "Not in the trade."

There are many named kinds of Crocus said to be autumnal, but how seldom are they seen, and how difficult to procure!

Beautiful as the vernal varieties are, those of the autumnal race, if cultivated to half the extent of the former, would more enliven our borders declining in beauty during the autumn. I am inclined to think they belong to that much-neglected race of what are called border flowers, and if brought into more general cultivation would be equally interesting to many cultivators. Sir J. E. Smith, in his "English Botany," tells us that Crocus sativus is naturalised, but I have not met with it as yet. It is by some called Crocus autumnalis. Crocus nudiflorus he names as naturalised too, but it is said to be rare, which no doubt is true.

Native or not, Crocus nudiflorus is an acquisition to any collection, and ought to be in each and all. Crocus speciosus is said to be rare. I am inclined to think it must be both local and rare. How often will the collector of novelties take the last root that can be found of any choice but rare plant? Pity it is that we should be so bent on destroying a station of anything of the kind. Some time now past I was one of a party out collecting; we came across a rarity in the neighbourhood, when it would have been carried off root and branch, but I pleaded for future generations, and prevailed, in hopes that many more of the same kind might spring up; but I was chagrined to find the next party that came secured it, one saying I should look after myself, and let others do the same. "Bear and forbear" is a grand motto, and is as applicable to plants as to animals.

In looking over the names enumerated in the "Cottage Gardeners' Dictionary," I find twenty or more Crocuses coming from as many different places, said to flower in the autumn, and exhibiting nearly as many shades of colour. My mind rests upon such a sight as twenty or thirty kinds of Crocuses in bloom in September and October with a feeling I cannot explain, but I should like to see such a sight in reality. The question, however, arises, How are we to get them? Not many of us have the means to go to Naples, for instance, nor yet to Florence, to say nothing of the Cape, the Continent, Asia, Africa, or America. Seldom do we meet with half-a-dozen kinds!

There is another desirable plant for autumn, Colchicum autumnale, which much resembles a Crocus, showing its lovely pale flowers among the grass in limestone districts, and which may be procured much more easily than Crocuses. It will grow in almost any soil or situation, and is an acquisition to the borders in September. The double variety is a little later, but is more showy than the single kind.—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

IRESINE HERBSTII.

Much has been said and written on the merits and demerits of this plant as a bedder, and after having been run down as good for nothing, it has generally become acknowledged as a valuable plant. But how little has been said of it as a decorative plant! Yet I am assured that it is a very excellent one for this purpose. I saw the other day at Messrs. Windebank and Kingsbury's, at Southampton, a plant at least 6 feet high, and Mr. Kingsbury told me that when in bloom it is a most beautiful object, blooming something like Humea elegans, but more elegant even than it, and that it continues in flower from October to March in any house from which frost is excluded. It may be worth notice, then, by those who wish to have decorative plants during the winter months.

May I take the opportunity of tendering my thanks to those fellow rosarians who have kindly taken my hint, and written their experiences? I may have something to say about them by-and-by, and in the meantime would say, Let none of those who grow and love the Rose be deterred from writing what he knows about it by the fear that he is writing truisms; we want information, and from all sorts and conditions of soil, climate, &c.—D., *Deal.*

THE CLIMBING DEVONIENSIS ROSE.

Though not a Rose-grower but only a Rose-lover, I may venture to quote my own small experience of the growth and management of the so-called Climbing Devoniensis, the future of which puzzles my worthy friend, "Y. B. A. Z." Ten years ago I planted against a paling, 9 feet high, a plant of that Rose grafted on the Manetti stock; it was, of course, planted some inches below the scion. After a while it began to grow vigorously, but did not produce more than some stray blossoms; nevertheless, it was allowed to grow as it liked, its only pruning being the tying-in and bending down its straggling branches. One year I had a shoot at least 18 feet long which was not interfered with, and it is now nearly 3 inches in diameter. The result has been, that two years ago I had at least four hundred blooms, and branches laden with blossoms were cut off for home exhibition. This year one day one hundred lovely buds were gathered, and two days afterwards sixty were gathered, leaving scores for future plucking. These were independent of the continual gatherings for weeks, as we always expect to find some buds during the summer months, though its bloom is not nearly so continuous as that of its neighbour, the Gloire de Dijon, in the praises of which no one can be too eloquent. If "Y. B. A. Z." leave his strong shoots alone and do not tip them (as the winter will do this effectively), but gently bend them when they will bear handling, he will have more blossoms than he will know what to do with; though this is scarcely possible, as his lady friends will fully appreciate Devoniensis buds in any stage.

In contrast with this luxuriant growth, I may mention that at the same time I planted a Devoniensis originally budded on the Briar. This was planted with equal care, but the stock was stagnant, and though the graft was some inches below the surface, the Devoniensis has never attained any vigour, nor thrown up shoots more than 20 inches high, and it only continues to live, though it has grown more this year than it has previously done. Never remove a tree, especially a Rose tree, if there is any growth, is my limited experience, for after a

while the most unpromising will probably start into vigorous growth if a free-growing sort.

It is unkind to be glad to find other persons are as badly off as yourself, but the testimony of so many correspondents about the uncertainty of Maréchal Niel, tells me that the fault was not mine that four plants most carefully tended have ceased to live. "Try again" is my motto, for it is such a beauty that any pains are well bestowed to obtain a good plant. Last year our best Rose-grower, with his own hands, to prevent disappointing me, put into Devoniensis and Gloire de Dijon stocks at least a dozen buds, not one of which succeeded. When it takes to the soil it will grow nearly as strongly as Devoniensis. In Mr. Pavitt's garden here, whence originally the Climbing Devoniensis was procured, Maréchal Niel grows more freely than any modern Rose, and his oldest tree is a sight, having many shoots upwards of 6 feet long, this year's growth. He cuts trusses of bloom, that show how well he understands its management. From him I learnt that if you wish a Devoniensis to grow strongly and retain its so-called climbing character, insert buds from a free-growing branch. If, on the other hand, the future tree is to be of a shorter and more compact character, select buds from flowering and more stumpy side branches. I have no doubt that this rule is of almost universal application; it is so in the case of Pear grafts.—J. S. B.

OAK LODGE,

THE RESIDENCE OF JAMES MCHENRY, ESQ.

THE grounds, entered by a carriage drive from the Addison Road, Kensington, are of no great extent, but afford striking evidences of wealth and luxury. The forms and figures are all gently rounded off and unite softly with each other. Lawn and gravel, shrub, tree, and flower, with all the less common and more costly appendages appear to belong to one another, and to fit into the place in which they occur. The idea of size is not to be realised within narrow limits by mere simplicity; it is indefiniteness, giving the eye a number of points to rest upon and recesses to explore, and giving the imagination a field for its active exercise, that produce the required result.

The conservatory attached to the house is furnished with a large mirror set in an ornamental door-like frame which, seen from the drawing-room, reflects and gives the appearance of increased length and breadth to all the statues and floral ornaments the conservatory contains. Of these may be noticed Dicksonia antarctica, 6 feet high in the stem, with fronds 10 feet long, various other Ferns, Camellias in pots, &c., and the walls are covered with Plumbago capensis, Lapageria rosea, Passiflora Impératrice Eugénie, &c. Marble statues occupy niches, and china vases are tastefully arranged on the floor.

On the garden or east front of the house is a terrace walk with vases filled with flowers on the balustrades; and the narrow borders around, edged with stone, are planted with Flower of the Day Pelargonium, with a bordering of the blue Lobelia. The view from the house comprises the lawn, lake, rockwork, clumps of trees, and single specimens, so disposed as to produce variety without intricacy. As you pass along, flower beds come into sight, with the lake and rocks, the latter surmounted with shrubs and tall flowering-spikes of Yucca filamentosa, backed with two large specimens of Wych Elms, and in the distance by Holland Park woods.

A vista to the right is composed of nine flower beds on grass, four circles of which are filled with Calceolaria Kayii in the centre, then Tom Thumb Pelargonium, edged with Cerastium tomentosum; two oblong beds with Christine Pelargonium, edged with Crystal Palace Tropæolum; two beds with Bijou, edged with blue Lobelia; and the centre bed contains Coleus Marshalli and C. Verschaffelti, edged with the Golden-feathered Pyrethrum. In various vistas and recesses around the lake that open up to view as you pass along the serpentine walks are flower beds. One is planted with yellow Calceolaria and Tom Thumb Pelargonium, edged with blue Lobelia; another with Calceolarias and Stella Pelargonium, edged with Gnaphalium tomentosum; small circular beds with Mrs. Pollock Pelargonium, edged with the Golden Feverfew; and a circular bed divided into four parts, two of which were planted with Purple King Verbena and two with Flower of the Day Pelargonium, edged with Golden Feverfew.

From a seat on rising ground beyond the ornamental rustic bridge, a fine view is obtained of the lake, the rockery, the Ivy-clad church of St. Barnabas on one side, and on the other a portion of the lawn, rising up like an amphitheatre to the distant shrubs, backed by the woods of Holland Park. The lake itself, though small, is a source of variety, with its beautiful changes of aspect, and the reflections of lawn, plant, and sky which are so softly mirrored on its glassy surface. The pleasure ground of a mansion can scarcely be considered complete unless it contains a piece of rockwork, either natural or artificial. There are, however, few persons who can imitate natural rock successfully. Rocks where they exist naturally, or where artificial ones are judiciously introduced, tend greatly to beautify a piece of water. What can be more appropriate than rocks for the high banks of a lake? Here there is an excellent example of rockwork, furnished with all the best sorts of shrubs too numerous to name, Ivy and other climbers overhanging the rocks, and from a seat in front of a waterfall a pretty landscape view is obtained. The rockwork is on a large scale, not one continued line, but broken at intervals, in one part lost beneath the surface of the earth, and again rising in another part and resuming its sinuous form. The method of making artificial rockwork is to have every stone arranged to suit the eye, and the interstices are then to be filled up with any kind of rough mortar. Of course, fissures and similar places intended for plants which are to cover the rock must be left open, so that the roots may penetrate to the soil beneath the stones. The next operation is to daub the whole mass over with Roman cement.

A Beurré Diel Pear tree growing high above the rockwork, with a few Apple trees interspersed among the shrubs are conspicuous. I have often thought that there is no species of tree that produces greater variety of form than the Pyrus tribe; indeed, it would be difficult to imagine any form of deciduous tree that may not readily be found in one or other of this interesting tribe. Fruit trees in shrubberies ought to be more abundant than they are, for they are quite as ornamental as most of our deciduous trees and shrubs at present in use, both in spring when in bloom and in autumn when laden with fruit, for who is there who does not admire either Apples or Pears? For villa and small gardens in general there is nothing equal to them for ornamental planting, either as standards or bushes, intermixed with a few evergreens, to give the garden a finished appearance in winter.

If fruit trees, as in France, were planted along the high roads and in the hedgerows instead of the useless pollards that now disfigure them, we should have an abundance of useful fruit and fewer complaints of pilfering. There are public pathways through many orchards in Kent, and through the market gardens in the neighbourhood of London, and there are but very few complaints of the loss of fruits or vegetables.

The specimen house, 70 feet long by 20 feet wide, contains about seventy Indian Azaleas. About fifty of them are from 2 to 5 feet in diameter, and 6 feet in height; not one-sided, but cone-shaped, and feathered all round from bottom to top.

Running east and west are two houses, each 120 feet long, with a promenade walk and borders between, furnished with handsome, spiral, young Box trees and other shrubs. The first range is divided into early and late vineries and Peach houses. The wood of the Vines in the early house is as fine as could be wished, and in the late house there is a splendid crop. The Peach houses are fine examples of good management, which was proved this year by a prize at the May Show of the Royal Horticultural Society. The other range includes the stove, intermediate house, and New Holland house. In the stove were two splendid specimens of Allamanda grandiflora, with between seventy and eighty expanded blooms on each, also Croton pictum, C. variegatum, the Cocoa-nut Palm, large specimens of Ixoras, Bougainvillea glabra, covered with its beautiful pink flowers; Franciscea calycina, and Eucharis magnifica, which had borne upwards of one hundred rose-coloured racemes from 18 inches to 2 feet long.

The other houses contained large specimens of Clerodendron Thomsonæ Balfourianum, Azalea sinensis, besides many varieties of Azaleas and Ferns. In the New Holland house was a miscellaneous collection of Fuchsias, Pelargoniums, Boronias, &c. To the north of the house is a bank overlooking the lake, which is planted with a row of Irish Yew, then Aucuba japonica, then a row of Berberis Aquifolium, edged with Hypericum—a succession of shrubs as here displayed most suitable for embankments.

On the north side of a hedge in the kitchen garden are temporary pits where the large specimens of New Holland plants are placed in the summer. Amongst them I noticed an Erica depressa, 5 feet high and 4 feet in diameter; Genetyllia fuchsioides, G. tulipifera, Erica colorans tubiflora, 4 feet in diameter;

very large specimens of Erica Cavendishii, Pimelea spectabilis, Chorozema varium nanum, Pleroma elegans, Pimelea Hendersoni, Phænocoma prolifera, &c.

The gardens, pleasure grounds, and houses are kept in first-rate order by the persevering and excellent head-gardener, Mr. Wilkie, whose name is to be seen every year attached to some of the first prizes awarded to the collections of plants at the great metropolitan shows.—W. Keane.

ROYAL HORTICULTURAL SOCIETY.

October 5th.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. Prizes were offered for three bunches of Chasselas Musqué Grapes, for which there were no competitors; also for three bunches of Muscat Hamburgh, for which Mr. Osman, Great Stanmore, was the only competitor. These were grown in a conservatory, and were not favourable examples, and hardly ripe. They were awarded a second prize. Mr. Stevens, of Trentham, was the only competitor in the class for Black Hamburghs, or Frankenthal. His were three splendid bunches in size, form, and colour, and received a first prize. Mr. Wattam, gardener to C. Longman, Esq., Shendish, Hemel Hempstead, sent for competition in the class for White Muscat of Alexandria three noble bunches of that variety, which were so superior, that in addition to the first prize they were awarded a first-class certificate. There was a strong competition in the Alicante class, which brought out exhibitions of very large and handsome bunches. The first prize was awarded to Mr. Egerton, gardener to Countess Waldegrave, Strawberry Hill, for three bunches weighing 15 lbs 15 ozs., beautifully grown and coloured; the second was taken by Mr. Latham, gardener to Messrs. Bertram & Roberts, Rockhill, Sydenham, for very large but not so even bunches; and Mr. Lynn, gardener to Lord Boston, had three good bunches, but not so well coloured, and it received a special certificate. In the class for three bunches of any new or recent variety, Messrs. Standish sent three fine bunches of Royal Ascot, with fine, large, jet black berries, which received the first prize; and the second was awarded to Royal Vineyard, sent by Mr. Baxter, garâcner to C. Keiser, Esq., Broxbourne. In the class for the best collection of Grapes named, there was no competition.

For Messrs. Lee's prize of £5, there was only one exhibitor. Mr. Stevens, of Trentham, sent three bunches, two of which were small, and ripe; the third a large, handsome bunch, but very unripe; and as the unripe bunch disqualified the exhibition, it was decided that the prize should be repeated, of which due notice will be given in the schedule for next year.

Mr. William Paul sent a collection of ten seedling Grapes, some of which were of excellent flavour, and the Committee commended 6, 11, 12, 10, 7, 4, and 15. Mr. James, gardener to Lord Dartmouth, at Patshull, sent two bunches of a seedling Grape, the berries of which may be called enormous; they are oval, white, firm-fleshed, and with a very rich and agreeable flavour. The Committee highly commended this admirable Grape, and recommended Mr. James to persevere in the cultivation of it, and send it up next year. Mr. Wells, of Southend, received a special certificate for a fine basket of Black Hamburgh grown in a ground vinery.

Mr. Bateman sent a basket of Bananas, Mangos, and Cape Gooseberry. The first were excellent, but the Mangos were over-ripe, and the Cape Gooseberries were scarcely ripe. Messrs. Stuart & Mien sent a seedling Tomato, which proved to be the Red Plum-shaped. Messrs. Carter & Co. sent a collection of Tomatoes, including the new American General Grant, Yellow Cherry, Red Currant or Solanum racemigerum, and one called Pear-shaped, which was not the true Pear-shaped. Mr. Gilbert, gardener to the Marquis of Exeter, sent a dish of Figs grown out of doors against a wall, which were very rich in flavour, and highly commended by the Committee. Mr. Gilbert also sent a seedling Apple, which is a good early kitchen Apple.

Mr. Tillery, of Welbeck, sent a fine dish of Walburton Admirable Peach grown on a glass-covered wall. The fruit was large, and of excellent flavour, and received a special certificate. Mr. Coltown, gardener to James Blyth, Esq., Wolverhampton, sent a dish of noble specimens of Salway Peach. The flavour was good, and the Committee awarded a special certificate. Mr. Drewett, of Denbies, sent two brace of Cucumbers, two white and two black. They were very good, but not superior to others in cultivation.

Mr. Warner, of the Nurseries, Leicester, sent a Plum called the "Don Plum," which was evidently the old French variety the Prune d'Or. Mr. Forsyth, gardener to Baron Rothschild, Gunnersbury, sent three splendid Pines—two Smooth Cayenne, one of which weighed 8 lbs., and Charlotte Rothschild, which weighed 9 lbs. They were unanimously awarded a special certificate. Mr. Henry Clarke, gardener to Earl Cowper, Panshanger, sent a fruit of Prickly Cayenne, to which a special certificate was awarded.

Mr. William Paul sent an interesting collection of Apples and Pears, to which a special certificate was awarded. Mr. Rivers, of Sawbridgeworth, sent a very large collection of Apples, which also received a special certificate. Mr. W. Deans, of Jedburgh, sent fruit of a seedling Apple, which the Committee did not consider equal to many others in cultivation.

Mr. Melvillo, of Dalmeny Park, sent a seedling Grape, called Golden Prince, raised from the Lady Downe's crossed by Muscat Hamburgh; but the Committee did not entertain a favourable opinion of it. Mr. Samuel Horley, of Woolaton, Nottingham, sent specimens of his Conquerer Prize Celery, accompanied with a letter, from which the following is an extract:—

"I may remark, the Celery is of the quality usually grown in this locality for exhibition, and has been blanched by the usual process, that of first folding the plant to the necessary height in strong white paper, and then pilling up the earth in the usual manner. This keeps the leaves perfectly clean and free from blemish—points of great importance when growing Celery for exhibition; but it is only just to remark that Celery so blanched is never so sweet and delicate in flavour as when the earth is closely packed in direct contact with it, and the longer the Celery remains in the ground after it is blanched, the more delicate the flavour will be, the earth no doubt exercising the same purifying principle upon the plant as it does upon every other substance that is brought in contact with it.

"The seed from which the Celery sent was raised was sown on a slight bothed the first week in April, and has been grown on with the greatest luxuriance ever since. The cold weather in May somewhat retarded the growth. The soil in my garden is very rich in leaf mould and other vegetable matter, and weak manure water is freely used throughout the season but the solid manure is placed in the trench quite a foot below the plan as it is desirable the roots should not enter it until the plants begin to throw up their centre leaves, and then it enables them to do so with more than usual vigour. You will observe the breadth, smoothness, and solidity of the leaves of the specimens I send, the variety being in point of form, as nearly perfect as it is possible to obtain it."

Messrs. Downie, Laird, & Laing sent specimens of a Turnip-rooted Beet, which was deficient in colour, and much inferior to the Turnip-rooted Bassano. Thomas Laxton, Esq., of Stamford, brought a large collection of grafted Potatoes, accompanied with the following statement:—

"I grafted or attempted to graft forty-six tubers, but the remainder either failed to take before planting out, or have since either died or have not been perfectly united. Some of those sent will, perhaps, show this, but in other cases the old tubers seem to have been thoroughly exhausted by the grafted eye. After grafting them I plunged the tubers in cocoa refuse for a few weeks, until I saw whether the eyes had apparently become intimately attached to the tuber. They were afterwards planted in a spare corner and examined from time to time, and where any eye had been omitted to be removed from the tuber the shoot was extracted. The grafting operations were performed rather late in the season, when most of my early Potatoes had been planted. The sets were not earthed-up, and appear to have been attacked either by grubs or slugs."

Messrs. Cuthush & Son, of Highgate, sent a choice collection of Onions, which received a first-class certificate, and Messrs. Barr and Sugden sent their extensive collection, which was shown at the previous meeting. A report of them will be found in another page.

Floral Committee.—Rev. J. Dix in the chair. The great feature of this meeting was the large and interesting collections of Fungi; the advantage of seeing these named and arranged as to their edible or poisonous qualities is very great. We can only regret that there is so short a space of time for examining them. The plant and floral departments were unusually well represented, the collections of cut Roses from Cheshunt and Waltham Cross were superb. Mr. Melville, Dalmeny Park, sent a basket of hybrid Pansies, Viola Intea crossed with the ordinary yellow Pansy; in their present state nothing could be said of them. From Messrs. E. G. Henderson, came Achyrocline Saundersii, a small white-leaved plant suitable for edgings; Cineraria acanthifolia; and a very pretty white Bouvardia jasminiflora.

Messrs. Veitch were awarded a special certificate for a valuable specimen of Masdevallia Veitchii; and first-class certificates for Anæctochilus ordiana (?), Anæctochilus Dawsonianus pictus, Tydæa Nero, with very dark red flowers; Rhododendron Lobbii, bright scarlet tubular flowers; Seaforthia Veitchii, and Miltonia Warscewiczii; also a special certificate for the group of plants, and a special certificate for the collection of Orchids. Messrs. Veitch also exhibited a new form of Palm, Veitchia Johannis, from the South Sea Islands; Lobelia Blue Gem, the darkest shade yet grown; Oncidium weltoni, &c.

Mr. Bull sent a fine collection of plants. First-class certificates were awarded to Dekenia nobilis, Martinezia caryotæfolia, Ptychosperma elegans, Ptychosperma Alexandræ, Thrinax havanensis, and Plectocomia elongata. These were all different forms of Palms, some of them, not well known, and it is considered necessary to bring this fine class of plants forward, as they have been seen by few and are most ornamental. Among Mr. Bull's other plants were Bignonia mirabilis, Ficus dealbata, Tritonia aurea cancellata, Chamærops arborea, probably a form of C. humilis, Albuca fastigiata elongata, Acanthoriza Warscewiczii, Ptychosperma regia, Afzelia magnifica, and Mesembryanthemum cordifolium variegatum. A special certificate was awarded the collection.

Messrs. Downie, Laird, & Laing sent seedling Dahlia Princess Matilda. From Mr. W. Paul came a fine collection of cut Roses grown out of doors, which for the time of year were remarkably fine; also a collection of cut zonal Pelargoniums. A special certificate was awarded. Messrs. Cuthush sent Centaurea nivalis, and Mr. Woodward, Stoke, near Coventry, a seedling Fuchsia not equal to many sorts. Mr. G. Archer, Wellingborough, was awarded a special certificate for a fine collection of cut Conifers with their cones.

Mr. Turner, Slough, exhibited a white seedling zonal Pelargonium, The Bride; an Ivy-leaved seedling Compactum, with very broad white margin—first-class certificate; and Tropæolum Ochroleucum, one of

the most useful bedding plants yet raised. The foliage is bright yellow, the plant producing but few flowers. It is of a dwarf and compact habit, and will be found generally useful for decorative purposes. Mr. Turner sent also a small collection of Tricolor zonal Pelargoniums in great perfection, which were awarded a special certificate; also three stands of superb Dahlias, for which a similar award was made. Mr. Cliffe, gardener to Lord Egerton of Tatton, sent a fine specimen of Hippeastrum reticulatum, which was awarded a special certificate for good culture. From Mr. E. G. Bland, Richmond Hill, came four seedling zonal Pelargoniums of no merit, also a collection of cut zonal Pelargoniums. Etna was considered a fine and promising variety. Mr. Green, gardener to W. Wilson Saunders, Esq., exhibited a very interesting collection of plants, among them a very pretty flowering bulb, Bessera miniata—a special certificate was awarded. Messrs. Paul & Son, Cheshunt, brought a most beautiful seedling Cupressus called C. Lawsoniana pendula alba, for which a first-class certificate was given. This is an extremely handsome plant, and will be in great request. Messrs. Paul sent five boxes of magnificent Roses, which justly merited a special certificate.

Mr. James, Highgate, sent plants of his silver Tricolor zonal Pelargonium, Mrs. Col. Wilkinson. Messrs. Cripps, Tunbridge Wells, sent plants of Yucca (draconis)alba spica, Euonymus japonicus pulchellus (?) microphyllus, Cupressus Lawsoniana alba; Mr. Laxton, Stamford, a seedling Rose, Beauty of Stamford, of a promising character; Mr. G. Parker, Winkfield, seedling Dahlia Enchantress; Mr. Poynter, seedling Fuchsia Royalty, with deep yellow foliage; and Mr. Frost, Dropmore, fine specimens of cut Conifers with cones, for which a special certificate was given.

Messrs. Standish sent a small collection of plants, including Actinopteris radiata, Abies japonica, an Anthurium, Nerine Fothergillii, and very fine plants of Ficus macrophylla, having very ornamental foliage, and being of quick growth. The plant is an epiphyte, and grows 50 feet high. When it has exhausted the plant upon which it has grown, its long roots reach the ground, and form stout poles, by which the plant is supported, and then receives its nourishment.

Exhibition of Fungi.—For the prizes offered for the best collection of edible and poisonous Fungi there were five competitors, each showing collections of very considerable merit; and that which came from Mr. Worthington Smith contained, we believe, as many as seventy species. The first prize was awarded to Mr. English, of Epping, who had in his collection the following Agarics—viz., A. muscarius, excelsus, vaginatus, rachodes, melleus, personatus, nudus, cynthiformis, laccatus, alcalinus, primulus, squarrosus, tener, arvensis, fascicularis, and laccatus amethysteus, very beautiful; Coprinus comatus, Lactarius quietus, Russula rosacea, R. fragilis, Cantharellus cibarius, C. lutescens, Boletus luridus and subtomentosus, Hydnum repandum and erinaceus, Lycoperdon giganteum, Phallus impudicus, and many others. But what attracted attention more than anything else to this collection, was the beautifully preserved specimens of which Mr. English exhibited a number on invisible wire supports, and which are prepared by a process known only to himself, and that enables him to retain all the characters of the species unaltered.

The second prize went to Mr. Smith for the very extensive collection before alluded to, and which was accompanied by coloured drawings of a dozen species of Agaricus. One great merit of Mr. Smith's exhibition, as compared with the others, was that poisonous and edible species were to some extent distinguished as such, and this is a feature which, as Mr. Wilson Saunders justly remarked, it would be desirable to carry out more fully at subsequent exhibitions of Fungi. A knowledge of what are poisonous and what are perfectly safe species cannot be too widely spread abroad, for it is the want of that knowledge which prevents Fungi being used as articles of food to a much greater extent than they now are; at present they are regarded with distrust, both by rich and poor, for both are, as a rule, unable to distinguish between those which are hurtful and those which would form a grateful addition to many a dish. Mr. Smith sent among edible kinds Gomphidius glutinosus, Agaricus gambosus, Coprinus comatus, Agaricus rubescens, Boletus edulis, Agaricus Orcella, A. procerus, and A. rachodes, Lycoperdon giganteum, Marasmius Oreades, Clavaria rugosa, Fistulina hepatica, and Lactarius deliciosus; some, as Agaricus vaginatus, Paxillus involutus, and Boletus subtomentosus, which have the negative quality of being not poisonous; whilst of those which are poisonous he had a numerous collection, among which were Agaricus muscarius, Russula rosacea and fragilis, Boletus luridus, Lactarius vellarius, and many more, besides several marked suspicious or dangerous.

The third prize was awarded to G. W. Hoyle, Esq., of Reading, who had a good collection, and several of the specimens were excellent. From Mr. Edmonds, Chiswick House, came a basket containing a small collection most tastefully arranged; and Messrs. Carter & Co., were likewise exhibitors, having, along with others, a Giant Puff-ball, apparently in excellent condition for use. Further particulars respecting the exhibition of Fungi will be found in our report of the General Meeting, and we can only add, that we hope such exhibitions will be frequently repeated. They are instructive to those who attend them, beneficial to the Society, and promise by their results, direct and indirect, to be beneficial to the country at large.

General Meeting.—J. Bateman, Esq., F.R.S., in the chair. After the usual preliminary business had been gone through, the Rev. M. J. Berkeley said his observations would be principally confined to Fungi. Before touching upon these, however, he would just remark that an extremely pretty Epidendrum, sent by Dr. Rogers to the last meeting, proved to be Epidendrum glumaceum; also that though at one time Picea Pinsapo had been supposed to be merely a variety of P. cephalonica, the two are totally different, as evidenced by the cones sent by Mr. Frost, Mr. Archer, and others, those of cephalonica having secondary scales, whilst there is no trace of these in Pinsapo. This constituted a decided difference.

Mr. Berkeley next adverting to the exhibition of Fungi, said that last year, in his unavoidable absence, a brilliant lecture was given by Dr. Bull, of Hereford. That lecture he would not attempt to rival, but, instead, would read a letter he had received from Dr. Curtis, of North Carolina, shortly after the war between the southern and northern States of America had ended. Dr. Curtis stated that when the southern army were in straits they often lived on Fungi, and Dr. Curtis himself had lived on these for months together. Three prizes were offered for Fungi—viz., one by Mr. Wilson Saunders, one by Mrs. Lloyd Wynne, and one by Lady Dorothy Nevill. The first prize had been awarded to Mr. English, of Epping, not so much because it abounded in the same number of species that some of the other collections did, nor because the manner of arrangement was that suggested by Mr. Wilson Saunders, but chiefly on account of the mode of preservation employed. And here he (Mr. Berkeley) would remark that he had never seen any specimens of Fungi equal to those preserved by Mr. English, who had been employed for the British Museum, the South Kensington Museum, and had sent collections to Norwich, as well as to Dr. Balfour, at Edinburgh. The collection to which the second prize was awarded came from Mr. W. G. Smith, of North Grove West, Mildmay Park, who was known as a first-rate artist, and had supplied drawings of Fungi to the South Kensington Museum. His collection included a very rare species of Boletus with white spores, and many other species of great interest. The third prize was given to a collection from Mr. Hoyle, containing some particularly good specimens, but many of them were not named. Two other collections, both of considerable merit, were shown, the one by Mr. Edmonds, of Chiswick, the other by Messrs. Carter & Co.

Mr. Berkeley then noticed particularly a few of the species shown, the first being Boletus edulis. The merits of this, he said, were very little known in England. Dr. Badham, when at Tunbridge Wells, first taught the people there its value, and to this day it is sought after in the neighbourhood. It also abounds in Kew Gardens, whence some of the specimens before him came. When in Hanover lately he went to the markets, and saw abundance of the dried slices of this and other Fungi, which must grow there in the utmost profusion. It is difficult to distingnish it from other species when young, but when it grows older its stem becomes more reticulated, and is the only species which can be found with a reticulated stem. Boletus castaneus could not be mistaken for it, owing to the absence of reticulation, and by its being detestably bitter, whilst an unfailing character of Boletus luridus is its becoming dark blue when broken. Of the Agarics, Agaricus Orcella is one of the best, so is A. pranulus, often confounded with it, and A. nebularis is not very different. A. Oreades, or Champignon, no one could confound with others, being so much superior, and the gills being leathery and far apart. Agaricus virosus, of which specimens were shown to the meeting, though often eaten in London, is extremely dangerous. The question had often been asked of him, "How to distinguish edible from poisonous species?" and he confessed he was totally unable to answer it. Experience, a knowledge of the species, was the only guide; and the same thing applied to other classes of plants as well as Fungi, for a person unacquainted with the difference might mistake the wild Celery for the Water Cress. All Fungi he believed were wholesome if preserved with salt and vinegar the latter seeming to neutralise the poisonous principle of Fungi. Mr. Berkeley then related that Dr. Badham having sent Agaricus muscarius by mistake to a friend, and although only a small quantity had been eaten, it had the effect of producing intoxication, a purpose for which it is largely used in Kamtschatka along with Cranberry juice. In fact, it derived its specific name muscarius from its property of intoxicating flies. Mr. Berkeley then read Dr. Curtis's communication before alluded to, and which was as follows:—

"You have asked me to give you my 'experience with the eatable Mushrooms of America.' This will be most satisfactorily done, I presume, in pretty much the same style in which I would narrate it to you at your fireside. My experience runs back only about twelve or fifteen years. You may remember that, previous to this period, I expressed a fear of these edibles, as I had grown up with the common prejudices against them entertained by most people in this country. Having occasionally read of fearful accidents from their use, and there being abundance of other and wholesome food obtainable, I felt no inclination to run any risk in needlessly enlarging my bill of fare. Thus I had passed middle life without having once even tasted a Mushroom.

"But as under your guidance and assistance my knowledge of Fungi increased, a confidence in my ability to discriminate species grew up with it, and a curiosity to test the qualities of these much-lauded articles got the better of timidity; and now, I suppose, I can safely say that I have eaten a greater variety of Mushrooms than anyone on the American continent. I have even introduced several species before untried and unknown. From the beginning of my experiments, however, I have exercised great caution, even with species long recognised as safe and wholesome. In every case I began with only a single mouthful. No ill effect following, I made a second essay upon two or three mouthfuls, and so on gradually, until I made a full meal of them. Fortunately, I have never blundered upon any kind that was mischievous, although I have

eaten freely of forty species. This is due, perhaps, to my general acquaintance with species which have been long used in Europe, and hence I have made no experiments upon new species which had not some affinity or analogy with them.

"For instance, Agaricus campestris and arvensis being wholesome, I did not doubt but that A. amygdalinus (a new species, closely allied to A. arvensis), might be safely attempted, and it has proved equally safe and palatable. Indeed, this may be regarded as the safest of all species for gathering, as it can be discriminated from all others, even by a child or a blind person. Its taste and odour are so very like those of Peach kernels or bitter Almonds, that almost invariably the resemblance is immediately mentioned by those who taste it crude for the first time. This flavour is lost by cooking, unless the Mushroom be underdone. When thoroughly cooked I cannot myself distinguish it from A. campestris. One or two persons have expressed the opinion that they can distinguish it, and that it is not quite so good. Others, again, are equally positive that it is better. In the crude state I deem it the most palatable of all Mushrooms, as it leaves a very grateful after-taste upon the palate, fully equal to that of Almonds. This is the thing I sent you some years ago for cultivation, but which failed to grow. I very much wish it might be propagated in England, so that we might ascertain whether it would undergo any change of qualities in a different soil and climate. I have for some time been entertaining the suspicion that such is the case with many of our species. Thus, in European books the Morel is described as possessing a peculiar flavour, that has given its name to the Morello Cherry. I can detect nothing of the sort in our Morel. You speak of A. cæsarens ('Introduction to Cryptogamic Botany') as being 'perhaps the most delicious of all Fungi.' This grows in great quantities in our Oak forests, and may be obtained by the cartload in its season; but to my taste, and that of all my family, it is the most unpalatable of all our Fungi, nor can I find many of our most passionate mycophagists who will avow that they like it. I have tried it in almost every possible mode of cookery, but without success. There is a disagreeable saline flavour that we cannot remove nor overlay.

"In the Tricholoma section, in which are several species long known as edible, I did not hesitate to experiment upon any that had the odour and taste of fresh flour. I began with A. frumentaceus, not learning from books whether it had been eaten in Europe. To this I subsequently added three new American species belonging to the same group. All are excellent when stewed, and are especially valuable for their appearance in late autumn, even during hard frosts, when other Agarics are mostly out of season.

"Again, there seemed such a similarity of texture and habit between A. cæspitosus (Lentinus, Berk.) and A. melleus, although the former belongs to Clitocybe, that the temptation to a trial of it was irresistible. As it is found here in enormous quantities, and a single cluster often contains fifty to a hundred stems, it might well be deemed a valuable species in a time of scarcity. It would not be highly esteemed where other and better sorts can be had; but it is generally preferred to A. melleus. I have found this species very suitable for drying for winter use.

"Among Boleti I ventured, in ignorance if it had ever been eaten, to try B. collinitus, on account of its close relationship with B. flavidus. I am not particularly fond of Boleti, but this species has been pronounced delicious by some to whom I have sent it.

"So among the Polypores, I had no fear of harm from the use of a new American species (P. poripes, Fr.), on account of its relation to P. ovinus, of its texture, and its flavour. The taste of the crude specimen is like that of the best Chestnuts or Filberts. It has been compared even with the Cocoa Nut, and is certainly of very agreeable flavour. It does not, however, make a superior dish for the table, being rather too dry, but it is innocent and probably nutritious.

"Of the Merisma group of Polypores, having already tried P. frondosus, confluens, and sulphureus, I ventured, after some hesitation, and with more than usual caution, to test the virtues of a new American species (P. Berkeleyi, Fr.), notwithstanding the intense pungency of the raw material, which bites as fiercely as Lactarius piperatus. When young, and before the pores are visible, the substance is quite crisp and brittle, and in this state I have eaten it with impunity and with satisfaction, its pungency being all dissipated by stewing. I do not, however, deem it comparable with P. confluens, which is rather a favourite with me, as it is with some others to whom I have introduced it. P. sulphureus is just tolerable; safe, but not to be coveted when one can get better. When I say safe, I mean not poisonous. I cannot recommend it as a diet for weak stomachs, which should be said of some other Fungi of similar texture. I am here reminded of an experience I had three or four years ago with this species, which would have greatly alarmed me had it happened at an early date in my experiments, and which would, probably, have deterred anyone unused to this kind of diet from ever indulging in it again. I had a sumptuous dish of it on my supper-table, of which most of my family, as well as a guest passing the night with us, partook very freely. During the night I became exceedingly sick, and was not relieved until depleted of my supper. My first thought on the accession of the illness was of Polyporus sulphureus; but as I remembered that inflammation was one of the symptoms of Fungus-poisoning, and I could detect no indications of this in my case, I soon dismissed the rising fear, did not send for a doctor, nor take any remedy. Others, who had partaken of the fungus more freely than myself, were not at all affected; and I presume my sickness was no more induced by the Polypore than by the bread and butter I had eaten. And yet, had I alone partaken of the dish, or had one or two others been affected in like manner, doubtless the night attack would have been very confidently attributed by some to the Mushroom; or had this been my first trial of that article, possibly I might ever after have regarded it with suspicion. I learned a few days afterwards from one of our physicians, that this kind of sickness was then somewhat prevalent in the community, and could be attributed to no known cause. For the credit of this species, therefore, we were fortunately able to distinguish the *post hoc* from the *propter hoc*.

"There are families in America that for generations have freely and annually eaten Mushrooms, preserving a habit brought from Europe by their ancestors. In no case have I heard of an accident among them. I have known no instance of Mushroom-poisoning in this country, except where the victims rashly ventured upon the experiment without knowing one species from another. Among the families above mentioned, I have not met with any whose knowledge of Mushrooms extended beyond the common species (A. campestris) called Pink Gill in this country. Several such families live near me, but not one of them was aware, until I informed them, that there are other edible kinds. Everything but the Pink Gill, which had the form of a Mushroom, was to them a Toadstool and poisonous. When I first sent my son with a fine basket of Imperials (A. cæsareus), to an intelligent physician, who was extravagantly fond of the common Mushroom, the lad was greeted with the indignant exclamation, 'Boy, I wouldn't eat one of those things to save your father's head!' When told that they were eaten at my table, he accepted them, ate them, and has eaten many a one since, with all safety and with no little relish. Since that time our mycophagists eat whatever I send them without fear or suspicion.

"I have interested myself to extend the knowledge of these things among the lovers of Mushrooms, and also their use among those who have not before tried them. In the latter work I am not always successful, on account of a strong prejudice against vegetables with such contemptible names, and an unconquerable fear of accidents. Yet, as in my own case, curiosity often conquers these errors. When away from home I have frequently obtained ready permission from a kind hostess to have cooked a dish of Mushrooms that I have found on her premises. It has rarely occurred in such cases that the dish, then tasted for the first time, was not declared to be delicious, or the best thing ever put in the mouth. This latter phrase was once used in reference to so indifferent an article as A. saligneus. Indeed, I have found several persons who class this among the most palatable species. To such persons a dish of fresh Mushrooms need seldom be wanting, as this one can be had every month of the year in this latitude. I am induced to believe that the quality of this species varies with the kind of wood it grows from, and that it is better flavoured when gathered from the Mulberry, and especially from the Hickory, than when taken from most other trees. Its fitness for the table seems also to depend much upon the rapidity of its growth; those which grow slowly, as is the case with some of our garden vegetables, being of tougher texture and of less delicate flavour. A warm sun after heavy rains brings them out in greatest perfection.

"I have several times been asked by persons eating Mushrooms for the first time, whether these things belong to the vegetable or animal kingdom. There is certainly a very noticeable resemblance in the flavour of some of them to that of flesh, fish, or mollusc, so that the question, as founded merely on taste, is not an unnatural one. But I was much struck with its propriety when reading an article in 'Fraser's Magazine' a few years since, written by the late Mr. Broderip, who therein says that Mushrooms contain osmazome. If this be so, it accounts both for their flavour and for their value as food. Of this latter quality I had become so well convinced that, during our late war, I sometimes averred, and I doubt if there was much, if any, exaggeration in the assertion, that in some parts of the country I could maintain a regiment of soldiers five months of the year upon Mushrooms alone.

"This leads to a remark, which should not be overlooked, upon the great abundance of eatable Mushrooms in the United States. I think it is Dr. Badham who boasts of their unusual number in Great Britain, stating that there are thirty edible species in that kingdom. I cannot help thinking that this is an under-estimate. But if the doctor is correct, there is no comparison between the number in your country and this. I have collected and eaten forty species found within two miles of my house. There are some others within this limit which I have not yet eaten. In the catalogue of the plants of North Carolina, you will notice that I have indicated one hundred and eleven (111), species of edible Fungi known to inhabit this State. I have no doubt there are forty or fifty more, as the alpine portion of the State, which is very extensive and varied, has been very little explored in search of Fungi.

"In October, 1866, while on the Cumberland Mountains in Tennessee, a plateau less than 10.0 feet above the valleys below, although with little leisure for examination during the two days spent there, I counted eighteen species of edible Fungi. Of the four or five which I collected there for the table, all who partook of them, none of whom had before eaten Mushrooms, declared them most emphatically delicious. On my return homeward, while stopping for a few hours at a station in Virginia, I gathered eight good species within a few hundred yards of the depôt. And so it seems to be throughout the country. Hill and plain, mountain and valley, woods, fields, and pastures, swarm with a profusion of good nutritious Fungi, which are allowed to decay where they spring up, because people do not know how, or are afraid, to use them. By those of us who know their use their value was appreciated as never before during our late war, when other food, especially meat, was scarce and dear. Then such persons as I have heard express a preference for Mushrooms over meat had generally no need to lack grateful food, as it was easily had for the gathering, and within easy distance of their homes if living in the country. Such was not always the case, however. I remember on one occasion during that gloomy period, when there had been a protracted drought, and fleshy Fungi were to be found only in damp shaded woods, and but few even there, I was unable to find enough of any one species for a meal; so, gathering of every kind, I brought home thirteen different kinds, had them all cooked together in one grand pot-pourri, and made an excellent supper. Among these was the Chantarelle, upon which I would say a few words in confirmation of what I have already said upon the varying qualities of Mushrooms in different regions and localities. You have somewhere written of this Mushroom as being so highly-esteemed a delicacy, that it is much sought for when a dinner of state is given in London. Can this be because it is a rarity? (for nothing common and easily obtained is deemed a delicacy, I believe), or because you have it of finer flavour in England? Here, where it abounds, no one seems to care at all for it, and some would forego Mushrooms entirely rather than eat this. It certainly varies much in quality, as I have occasionally found it quite palatable, and again, though cooked in the same mode, very indifferent. I have been unable to ascertain whether this difference is due to locality, exposure, shade, soil, moisture, or temperature. That soil has much to do with the flavour of some species of Mushrooms I am well convinced. In a parcel of Pink Gills I have sometimes found one or two specimens, though perfectly sound, of such unpleasant odour and taste as would spoil a whole dish. So also with the Snowball (A. arvensis), of which I annually find a few beautiful specimens growing near my residence, upon a grassy turf which covers a pile of trash made up of decomposed sticks, leaves, and scrapings from the adjoining soil—their taste and odour is perfectly detestable. I had one specimen cooked, but no amount of seasoning could abate the offensiveness of the odious thing; yet within a hundred yards of these I gather specimens of the identical species, which are of fine flavour, equal to that of the best Mushrooms. As I have before intimated the varying flavour of Mushrooms growing on different kinds of wood, so here, I sup-

pose, the unpleasant qualities of some specimens of these two well-known and favourite species may be owing to something in the soil where they grow which they cannot assimilate, and which so renders a palatable and wholesome species totally unfit for the table. Whether such specimens, if eaten, would be poisonous or unwholesome I do not feel any temptation to prove. It is not probable that they will ever do any mischief, for it is incredible that any human being should so pervert his instincts as to swallow such a villainous concoction.

"Experience and observations like these would perhaps justify the inference that an innocent species may sometimes be deleterious, on account of its taking up some bad element from the soil. But as I have never known a case of poisoning in families that are well acquainted with the common Mushroom or Pink Gill, that gather the specimens for themselves, and have used this article of food annually for many generations, I cannot agree with a suggestion somewhere made by you, that perhaps all Mushrooms contain a poisonous element, but some of them in such small quantity as to have no appreciable effect. Now, had you seen the quantities of stewed Mushrooms swallowed at a single meal which I have seen thus devoured, and with no more harm than from the same amount of oyster or turtle soup, I think you would be forced to the conclusion that such an amount, even of poisonous infinitesimals, must have had some very unpleasant manifestations, or else be a very innocent diet.

"It is said that the sale of the Pink Gill (A. campestris), is forbidden in the Italian markets, because that species has often proved to be poisonous. May not this have been occasioned by ignorant and careless collectors or by worthless inspectors? To us in America, who use this species so freely and fearlessly, the Italian's curse, 'May he die of a Pratiola,' would have no more terror than 'May he die of aromatic pain.'

"Our best and standard Mushrooms are the Pink Gill (A. campestris); Snowball (A. arvensis); Peach Kernel (A. amygdalinus); Nut (A. procerus); French (A. prunulus); Morel (Morchella esculenta); Coral (Clavariæ); and Omelette (Lycoperdon giganteum). These are almost universally in high esteem. Yet tastes differ on these things as on fruits and vegetables; some putting one, some another, at the head of the list, though fond of all and ever ready to use either of them, as one who prefers a Peach may yet relish an Apple. There are some among us who regard A. procerus as fully equal to A. campestris, and I am almost of the same opinion. When broiled or fried it truly makes a luscious morsel. I must mention in this connection, that this species here bears the name of Nut Mushroom, from a quality that I do not find mentioned in the books which describe it. The stem when fresh and young has a sweet nutty flavour, very similar to that of the Hazel Nut. Is this the case with you? Its flavour is so agreeable that I am fond of chewing the fresh stems. From this peculiarity in connection with its moveable ring, its form, and colours, I deem it a perfectly safe species to recommend for collecting. We have no species likely to be mistaken for it, except A. rachodes, and I fully tested the innocence of this before commending the first to others. This has been suspected by some, but I have found it harmless. Though pretty well flavoured, it is not comparable with A. procerus, and the flesh is so thin and spongy that no one would choose it when those of more compact texture are to be had. A. excoriatus, of the same group, is a much preferable species.

"The Morel is one of my greatest favourites, but this is not found in quantity except in calcareous districts. A few days since (April 21st), I had a dozen for supper, the largest number I ever had at one time.

"The Lycoperdon giganteum is also a great favourite with me, as it is, indeed, with all my acquaintances who have tried it. It has not the high aroma of some others, but it has a delicacy of flavour that makes it superior to any omelette I have ever eaten. It seems, furthermore, to be so digestible as to adapt it to the most delicate stomachs. This is the Southdown of Mushrooms.

"In this latitude (about 36°) we can find good Mushrooms for the table during nine or ten months of the year. Including A. salignus, which some are quite fond of, we can have them in every month, as this species comes out during any warm spell in winter. A. campestris makes its appearance here as early as March, but not in full crop until September. Several excellent species of the Tricholoma group do not spring up until after frost sets in, and continue into December. Such is the case too with Boletus collinitus, which sometimes emerges from the earth frozen solid.

"These observations and experiences are confined chiefly to the Carolinas; though, I presume, from casual observations elsewhere, and from information derived from correspondents in other States, that making some allowance for difference of climate and length of seasons, what I have said is generally applicable to the whole country.—M. A. Curtis."

Mr. Wilson Saunders said, that seeing the interest excited in the exhibition of Fungi, he intended offering his prize another year. He wanted to try and teach people which of them are edible, which not so, but he would in future require the edible to be placed on one side, and those not known to be so on the other, not mixed together as at present. He would also require the names of the edible kinds to be given. He was convinced that the country was losing a great deal of good wholesome food from want of a knowledge of Fungi, of which numerous species are known to be safe; he was anxious that people should arrive at that knowledge, and considered exhibitions of the different species one of the best means to the end.

Mr. Bateman congratulated the Fellows on the success of the exhibition, and made some remarks on Truffle-hunting in the south of France, and on Fungi generally, while some of these, which had been cooked, were handed round, urging the Fellows to partake without fear, as the Council had set the example. He then produced some Mangos, which he had purchased in Covent Garden Market, thus partly fulfilling a prophecy of Sir Joseph Banks, that Mangos and Mangosteens would be sold in Covent Garden. This was the first time he had seen Mangos there; they came from Madeira, but the fruit had been ripened both at Chatsworth, and many years previously at Earl Powis's. After referring to the Cape Gooseberry previously noticed, he produced some Blackberries, which he was told were excellent in dumplings along with Berberries. Blackberries were appreciated both by rich and poor in North Staffordshire, and Blackberry jam had been found so effective in cases of fever in Bethnal Green, that a clergyman there had once advertised for them. After mentioning Hippeastrum reticulatum as being a beautiful free-flowering plant, known near Liverpool under the incorrect name of Bertolonia marmorata, likewise Bessera miniata, as being one of the charming plants he ever saw, Mr. Bateman said it was with painful feelings he looked at that bank of Orchids on his right, for it reminded of the removal from among us of Mr. James Veitch, the most energetic man the horticulture of this or any other country had ever known. In the beautiful Masdevallia that bears his name, there was an Orchid that would commemorate him as long as Orchids were cultivated. In Mr. Robert Thompson, too, they had lost one of the last of the old horticulturists, and one who had been indefatigable in his labours in connection with fruits.

The proceedings then concluded by the Chairman stating that the next meeting would be held on the 19th inst., when prizes would be offered for out-door Grapes.

The attendance at this meeting was larger than at any we remember, the Council-room being completely filled, as well as a portion of the adjoining colonnade.

REPORT ON ONIONS.

EXHIBITED BY MESSRS. BARR & SUGDEN, BEFORE THE FRUIT COMMITTEE OF THE ROYAL HORTICULTURAL SOCIETY.

Oblong or Pyriform Onions.—To this section belongs the Onion sold by the grocers under the various names of Spanish, Portugal, and Oporto Onion. The varieties cultivated in this country which most nearly approximate to the imported Onion are James's Keeping and Pear-shaped; they possess all the outward characteristics of this Onion, and, cultivated in the ordinary way, attain about the same size. There is not, of course, the beautiful clear skin on these Onions that there is on the imported ones, but there is no doubt this is the result of climate. The Giant Madeira attains a greater size. Some were grown within a few feet of the Oporto Onion, and they attained fully twice the size of the Oporto variety; they do not appear, however, to keep so well, as they are beginning already to grow. The group of Onions, Nos. 81 and 73, will show the relative sizes of these two Onions when grown in this country without any extra culture. Oxhorn belongs to this division of Onions, likewise Brown Globe and White Globe; the two latter varieties seem to be sold under the name of James's Keeping. This will be seen in two groups, No. 20, the one the White Globe, the other the Brown Globe. There are two samples also of Globe Onion, No. 85A and 85B, which were received from two London wholesale houses. The stock seems reverting to the flat form, which would bear out Mr. Thompson's suggestion that this Onion originated in the Blood Red. The Bedfordshire Champion Onion sent out by Messrs. Hurst & Son as a very superior new variety appears a very bad stock of James's Keeping and Brown Globe. Those who contributed specimens of the Oporto Onion, and also of other varieties of Onions for comparison, and whose names are attached to each group, are the following:—

Mr. Parsons, Daneshury.
Mr. John Standish, Ascot.
Mr. Rogers, Berryhill.
Mr. Dancer, Chiswick.
Mr. Bousie, Quantock Lodge.
Mr. Penfold, West Moulsey.
Mr. Goldsmith, Poleseden Lacey.
Mr. Simpson, Stoke Farm.
Mr. Burton, Heathfield.
Mr. Luckhurst, Egerton House, Hawkhurst.
Mr. Earley, Digswell.
Mr. Thos. Record, Lillesden.
Mr. Horley, Toddington.
Rev. W. F. Radclyffe, Okeford Fitzpaine.
Stuart & Mein, Kelso.
Royal Horticultural Gardens, Chiswick.
Mr. Gilbert, Burghley.
Mr. Stewart, Nuneham Park.
Mr. Rutland, Bentley Priory.
Mr. Lidgard, Albion Road, Hammersmith.

It will be observed with reference to the Oporto Onion that with a little attention we can in this country grow the Onions quite as large as they can in Oporto (for example those sent by Mr. Standish), and what, perhaps, is remarkable, in about half the time. Mr. Standish's Onions were not sown till the 1st of April, and they were pulled up in the middle of September, being five months and a half; whereas the Oporto Onion according to Mr. Crawford, British Consulate, Oporto, is eleven or twelve months in attaining its size. Whether the quality of the English-grown Onions is equal, the Committee must determine, as two Onions from the grocers' shops, two of Mr. Standish's Onion, and two of Nuneham Park, from Nuneham Park, are being cooked.

The next section of Onions which produce immense roots are the Giant Rocco, Santa Anne Giant Madeira, New Venetian Giant, Flat Giant Madeira, Red Flat Tripoli, and Red Sallon. Santa Anne Giant Madeira appears to be a variety of the Oporto Onion; the others seem all to belong to the Tripoli family. None of them promise to be good keepers, but under good cultivation they will attain an immense size. Of the

former and better-keeping classes of the pale red and brown-skinned Onions, there are Danvers' Yellow, St. Brienne, Pale Red Niort, Pale Red Flat Keeping, Common Pale Red, French Strasburg, Flesh-coloured Strasburg, Strasburg, Red Spanish, Yellow Flat Keeping, Very Large Yellow, Straw-colour. These have a strong family resemblance: most of them are medium-sized Onions, but some of them may be cultivated to a great size. The best are St. Brienne, Red Niort, and Danvers'. Of the lighter-skinned flat Onions, Very Large Yellow, Straw-coloured, Large Dutch Yellow, Sulphur, Sulphur Flat Keeping, White Spanish, and Nuneham, all resemble each other very much. The Nuneham Park is the thick-necked variety of the Spanish Onion, and is capable of being grown to the largest size. The variety of Spanish Onion mostly grown in Bedfordshire has a finer neck, and appears a finer-bred Onion than the Nuneham Park, though it does not appear to grow under superior treatment quite so large. Nos. 121 to 129 embrace the two classes of the White Spanish. Some seasons, when the Onion crop is a failure in this country, the Large Dutch Yellow is imported in large quantities to supplement the deficiency.

Red Onions.—These are variously sold as Blood Red, Dark Blood Red, Very Dark Blood Red, and Very Deep Blood Red. No. 66 is the largest in this section, and No. 70 the darkest. These Onions are reputed to be very strong in flavour, but probably the colour has suggested the idea.

White or Silver-skinned Onions.—These are sold under a great many names:—Very Early Silver-skinned, Early Silver-skinned, Very Early Paris Silver-skinned, Early Paris Silver-skinned, Large Early Paris Silver-skinned, Early Nocera Silver-skinned, Extra Early Nocera Silver-skinned, White Tripoli, White Valentia, Silver Keeping, and White Lisbon. The variation in the names seems greater than the variation of the bulbs. Some sorts may probably keep better than others, and some probably grow larger than others. The coarsest sort appears to be the Lisbon, and the true imported White Italian Tripoli, No. 61, the finest. This variety appears, however, somewhat difficult to procure genuine. Two samples had from two wholesale London houses, gave about a third of white, and these appear coarse. All the white Onions are mild in flavour. They are amongst the earliest to come into use, and for pickling are certainly very desirable both on account of colour and quality.

The *Two-bladed Onion* is a pretty little variety, much prized by many for pickling.

The *Potato Onion* is a large mild-flavoured variety, not usually produced from seed. No. 155 was received from Mr. Gilbert, of Burghley. No. 122 is the produce of seed. In Devonshire, where this Onion is extensively cultivated, they are in the habit of planting them on the shortest day, and lifting them on the longest.

The *Tree, or Bulb-bearing Onion*, sometimes called the Rocambole Onion, produces small bulbs on the stalk instead of flowers. These are greatly prized for pickling. It also forms roots under ground.

The Onions commencing at No. 48 to No. 131 are simply to be considered as a collection. Nos. 1 to 47, and Nos. 132 to 161 are more or less specimens of good cultivation, being contributions as already notified.

POMOLOGICAL GLEANINGS.

The Atlas Nut (Corylus algeriensis).—I enclose some leaves of this Nut, they are remarkable for their size and rugose nature. The sort was received from the south of France some years ago, under its Latin appellation, and was said to be from the Atlas. It is simply a good Nut, but from its enormous clusters, often from eight to twelve nuts in each, and its distinct robust habit, it is worthy of notice.—T. R.

[The leaves are immense and nearly quite round.—Eds.]

—— The Summer Beurré d'Aremberg Pear.—This most delicious Pear bears so profusely that it requires its clusters of fruit to be thinned to obtain fair-sized fruit; this should be done in July.—T. R.

—— A New Transparent Gage Plum.—A young seedling tree raised from this fine Plum, bore some fruit here for the first time this season. They were remarkable for their size and beauty, and for being a fortnight or more earlier than the original sort, which (September 25th), is not yet ripe. Colour of skin yellowish green, nearly covered with crimson blotches; flesh parting from the stone like an Orleans, and juicy and rich as its parent. No Plum can surpass it in this respect. The most curious feature in the seedling is, that instead of having very vigorous, smooth, straggling shoots like its parent, its shoots are downy, and the habit of the tree compact. It will be some few years before this sort can be distributed, as the tree is but three years old, and had but one or two young shoots on it fit for propagation. I am induced to mention this seedling Plum, as it may encourage others to raise seedlings from our choice fruits. It is, however, curious to observe, that two other seedling Plums of the same age and raised from the same sort have produced small purple Plums of no value. —T. R.

—— The Bryanston Gage Plum.—This sort has been in cultivation some thirty or forty years, yet is but little known. It is now (the end of September), fully ripe, and very rich and good it is. The habit of the tree much resembles that of Reine Claude de Bavay, and its fruit greatly resembles it, but is not quite so large. Its colour is a light greenish yellow, and its skin is covered with a delicate white bloom; its flesh is transparent and remarkably juicy and refreshing. I presume that this variety of the Gage race of Plums is of English origin, but I forget its history.—T. R.

LAXTON'S SUPREME PEA.

Having read the correspondence under the above heading, I think it right to state the result of my trial of Laxton's Supreme Pea. I, like many others probably, was induced from the wonderful drawing and description in the catalogue sent out by Messrs. Carter & Co., to give it a trial, and the result was, as regards its growth, quite the reverse of that described by "C. C. E." With me the haulm did not exceed in height 1½ foot; the pods were small and contained from three to four peas of small size; it was sown at the same time as and adjoining a row of Laxton's Prolific, which latter attained the height of 4½ feet, and cropped abundantly, with large pods mostly containing eight or nine peas, and this is, I consider, after three years' trial a first-class Pea.

As regards the price charged for Laxton's Supreme Pea, I should not complain had it at all answered to the description given, but I certainly feel it an imposition to be charged 3*s.* 6*d.* per half pint for what has proved with me a very inferior article, and the only conclusion I can come to is, that I have been supplied with the wrong seed, although I obtained it from the firm of Carter & Co., in a sealed packet. I shall certainly in future disregard the glowing descriptions of novelties set forth in catalogues.—A Constant Reader.

I can fully confirm the remarks made by "C. C. E.," respecting Laxton's Supreme Pea, and can also find several others in this immediate neighbourhood who, like myself, purchased it at 3*s.* 6*d.* per sealed packet, thinking that thereby we should at least obtain a Pea of dwarfish habit; but instead of such we have been annoyed to find Peas rising to the height of 7 and 8 feet, in positions not at all suited to such rampant growths.—An Old Subscriber, *Newark-on-Trent*.

If your correspondent "C. C. E." will be good enough to turn to the report of the Fruit Committee of the Royal Horticultural Society dated June 29, 1868, he will find that at that comparatively early period Laxton's Supreme Pea had arrived at maturity in the gardens, and is specially noticed as "a grand Pea, with very long well-filled curved pods." Our own trials had been even earlier. It was with this independent testimony, in addition to our own observations, that we joined in the effort to introduce the Supreme Pea to our friends and the public, and the description we gave was in perfect good faith. The Pea with us and at Chiswick grew compact, under 4 feet, and early; and the only mistake made was, that the peculiar character of the early summer of 1868 was not, perhaps, taken into consideration as it should have been. The extremely hot forcing weather tended, no doubt, to check the growth and hasten the ripening of the crop.

We confess that this summer we have seen the Pea much taller on certain soils than we anticipated, and our own trials did not yield Peas so early as did those of 1868; but we still hold the Pea in the very highest admiration, and shall confidently recommend it to all who deal with us as one of the handsomest and most valuable varieties for both quantity and quality that has ever been sent out. We have seen it in many places with branches quite as good as that depicted on the plate. We trust your correspondent will see that we have

reason for saying we are not to blame, and that another trial next summer will lead him to think as we do of the Pea.—HURST & SON, 6, *Leadenhall Street.*

"C. C. E." positively surprises us when stating that Laxton's Supreme Pea "in no way resembled its picture and description, save in its pods." Did "C. C. E." satisfy himself, by examining every pod, of the exact maximum of peas in a pod? Did he actually measure the haulm himself and discover the length to be as he asserts? Lastly, will he acknowledge the fairness with which the Royal Horticultural Society's trials are conducted, and the honesty of our intentions when endorsing our own experience with the evidence of such trials?

Now, as to the price. "C. C. E.'s" ideas are so original, that whilst at one moment we realise the severity of his remarks, at another we are almost disposed to flatter ourselves with the belief that he treats us as horticultural philanthropists. For instance, he says, "it matters not to the grower whether they (the enterprising seedsmen) give £100 or 100 pence per bushel for the Peas;" and whilst acknowledging the great things we, with many others, have done for horticulture, he adds, "their (the seedsmen's), prices for stock seed is their affair, not the grower's (purchaser's), being purely a trade speculation, &c." The question, therefore, is best answered in "C. C. E.'s" admission, that it is "purely a trade speculation, founded on their own experience and acumen."—JAMES CARTER & Co.

[The last is an extract from a communication received from Messrs. Carter & Co., and here the controversy must close. By most growers of the Pea in question it is stated to be of average quality, but it is not a dwarf variety, except on poor soils. The preceding notes and many others in our possession, signed "KITCHEN GARDENER," "A VICTIM," &c., are from practical men, and they all condemn the exaggerated statements.—EDS.]

GRAFTING TRICOLOR PELARGONIUMS.

MOST gardeners are aware of the fact that these beautiful plants are very slow growers, and, consequently, they find a great difficulty in propagating a sufficient number to meet their requirements. Now, if any of your readers have this difficulty and wish to overcome it, I advise them to follow my plan, which I shall describe as briefly as possible.

In March select some old plants of Rubens, Tom Thumb, or Punch Pelargoniums, which are strong growers, place them in a brisk heat so as to drive the sap strongly up, then head them down to about 2 inches, and graft Italia Unita, Sophia Dumaresque, or Lady Cullum upon the stocks. This must be done neatly and expertly to insure success.

In about three weeks the scion and stock will be found adhering to each other, and will soon be throwing out buds in all directions, and the plants will be ready to plant out at the same time as the rest of bedding plants, if gradually hardened off.

It is astonishing how quickly Pelargoniums grow when treated in this manner. This spring, for instance, I had one plant, a very small one, of Italia Unita, from which I took a graft, and the grafted plant furnished thrice as many cuttings, and made a finer plant too than the plant on its own roots. I am aware that grafting these plants is no novelty, but where cuttings are wanted the practice is well worth carrying out. I did not observe that grafting had much effect on the colours, but it certainly induced a vigorous constitution in the graft—a great desideratum where a specimen plant is required for exhibition, or for general conservatory decoration.—JOHN BOWLEY.

MARÉCHAL NIEL ROSE.

IT may be useful to Rose-growers to know that Maréchal Niel succeeds admirably on Jane Gray. I had a tree of the latter Rose against a south wall, which, even here in Devonshire, would not flower; in despair I moved it into a corner of the kitchen garden, and budded it on one stem with Maréchal Niel, and now it has fine flower buds and blooms. All its shoots are exceedingly vigorous, though against a north wall.—G. E. E.

NOTES AND GLEANINGS.

ON a reference to our advertising columns it will be seen that a second edition of the Rev. J. Fountaine's pamphlet, 'THE NEW METHOD OF GROWING FRUIT," is now published, and may be had at our office.

—— THE RIGHT HON. GEORGE PATTON, Lord Justice Clerk, and Lord President of the Second Division of the Court of Session in Scotland, under the title of Lord Glenalmond, whose melancholy death occurred on the 20th ult., was third son of the late James Patton, Esq., of Glenalmond, Sheriff Clerk of Perthshire, by Anne, his wife, daughter of Thomas Marshall, Esq. He was born in 1803, and after following his studies at the Perth Academy and the University of Edinburgh, finished his education at Trinity College, Cambridge. Adopting the profession of the law, he became a Scotch Advocate in 1828, and was Solicitor-General for Scotland in 1859. In June, 1866, he was returned to Parliament by Bridgwater; but, accepting shortly after the appointment of Lord Advocate, he had to vacate his seat, and was defeated by Mr. Vanderbyl at the election which ensued. In 1867 he succeeded Mr. Inglis (Lord Glencorse) as Lord Justice Clerk, and was sworn of the Privy Council. He married, in 1857, Margaret, daughter of the late Lieutenant-General Bethune, of Blebo, in the county of Fife.

Mr. Patton was fond of gardening in all its departments, but especially of arboriculture. He aided in founding the Oregon Botanic Association, and one of the Conifers resulting from its researches was named in his honour Abies Pattoniana. It is the Great Californian Spruce, and well merits to be more cultivated. The following is extracted from Gordon's Supplement to his "Pinetum:"—"This Fir grows under favourable circumstances to an immense size in the Oregon country, where not unfrequently trees are seen from 30 to 40 feet in circumference, 4 feet from the ground, and towering upwards some 250 feet, or more, with 100 feet of the trunk entirely free from branches. The timber is excellent, splits freely, and quite straight in the grain.

"Dr. Newberry, in his report on the Exploratory Expedition and Surveys from the Mississippi River to the Pacific Ocean, describes this Fir under the name of Abies Williamsonii; and more recently, Mr. Bridges, a collector in California, has been disposing of seeds of a very different kind under the same name; Dr. Newberry's sort being identical with Abies Pattoni (the Giant Fir of California), while that sold by Bridges under the name of Abies Williamsonii is the same as Abies Mertensiana (the Hemlock Spruce of California).

"The Abies Pattoni occupies the most elevated parts of the Sierra Nevada, and seldom descends lower down than 100 yards from the line of perpetual snow, where in moist situations it forms a tree from 100 to 130 feet high, with a trunk sometimes 3 feet in diameter. Its branches spread out horizontally from the main stem, but become drooping towards the extremities, and with the branchlets thickly set round with solitary leaves about two-thirds of an inch long, grass green above, and pale green beneath, with those towards the points of the branchlets spreading, and silvery white below. The cones are about 2 inches long, and 1 inch in diameter, in the widest part; when young, dark purple, but when old, pale brown. Male flowers, or catkins, two-eighths of an inch long, and of a violet colour. The timber is of a reddish colour, close, and fine-grained, and remarkable for its strength and durability, and as an ornamental tree for parks or pleasure grounds, or for general planting, no tree can be more recommendable; and, judging from the soil and situation in which it grows, it may be considered the hardiest of all the Californian kinds.

"Mr. William Lobb found it in abundance, on the highest peaks of the Sierra Nevada, near the head waters of the north tributary of Feather River, and more to the south, toward Lake Bigler, forming immense trees, in habit of growth and general appearance much resembling the Deodar, but being more thickly branched, and densely clothed with foliage; by far the handsomest tree."

WORK FOR THE WEEK.

KITCHEN GARDEN.

WHERE Box-edgings require relaying, or walks require gravelling, let the work be done at once, for when the season is further advanced frosts interfere, and other pressing work, as nailing, will require attention. Continue to trench every spare piece of ground, either to receive crops or to benefit by the action of frost and air. It is now high time to check *Broccoli* that is growing luxuriantly, by laying the plants down. Constant attention is necessary to secure from slugs the plantations of *Cabbages*, and of *Cauliflowers* under hand-lights, frames, or in other places of shelter; dust the ground between the plants every second day with soot and quicklime, and make good the blanks from the seed beds. The same directions apply to the winter *Lettuce*. Take care to secure a good supply of *Endive*

for winter use. The *Celery* leaf-miner is reported to be very prevalent this autumn; the best remedy, perhaps, is picking off the affected leaves and burning them. Where there is room to spare in the Mushroom house, a little *Sea-kale*, if wanted, may be forced. The roots should be placed on a slight bed of warm dung, filling up the spaces between them with old tan, or with the mixed soil and manure from an old Mushroom bed, giving a good watering to wash it in amongst the roots. The bottom heat should not exceed 70°, as too much heat is not favourable to strong growth. Take advantage of wet days for making fresh *Mushroom* beds, and clearing out those which are spent; also collect and prepare droppings for forming fresh beds, by spreading them in a shed and turning them every day until they are sufficiently dried to prevent excessive fermentation after putting up. Carefully examine *Onion* stores, and remove all the bulbs in which there are any symptoms of decay.

FRUIT GARDEN.

The fine weather which we have lately experienced has been very favourable to the ripening of late fruits. Continue, therefore, gathering both Apples and Pears, most varieties of which will now be ready. Nonpareil Apples should be amongst the last gathered, and the same may be said of Glou Morçeau, Beurré Rance, and Easter Beurré Pears. If Coe's Golden Drop Plums be carefully gathered, wrapped singly in thin paper, after remaining some days in a dry, airy room, and then packed in shallow boxes, they will keep a long time, and so will the Blue Impératrice and the Ickworth Impératrice, the latter being the preferable Plum. It cannot be too often repeated, that all choice fruit should be gathered when perfectly dry; and in storing, wherever an extensive surface of fruit is exposed, air must be admitted freely, for at this period exhalations are most abundantly given out, and more especially by the early varieties on their becoming fit for use. These, in fact, ought not to be in the same apartment with the more valuable late-keeping sorts. Look frequently over the fruit room, and remove at once any fruit that appears to be unsound.

FLOWER GARDEN.

Chrysanthemums are now everywhere occupying attention. Let them be tied out, so as to display their blossoms to the best advantage. Protecting materials must soon be prepared for such plants as require to be covered up in the winter. When dry fern can be had, it answers the purpose perfectly. Choice sorts of Hollyhocks may soon be taken up, potted, and wintered in a cool house. They will be exceedingly useful for furnishing cuttings, and these, if put in early in spring, will make excellent plants for next season. Be careful to secure against wind plants which have been transplanted, especially those which are of large size. All such should never be left until they are properly staked, or otherwise made fast; it frequently happens that the roots are injured through the tops being rocked about. Deeply trench and ridge-up ground intended to be planted with Dahlias and Hollyhocks next season, so as to expose it as much as possible to the weather, putting in plenty of rotten manure, especially where the Hollyhocks are to be planted, for these require a rich, deep soil. Alterations of grounds, and the planting of evergreens, should now be carried on with dispatch; but never attempt planting where the soil is not in good condition. The drier soil is when placed round the roots of newly-planted shrubs, provided they are judiciously watered-in, the sooner they emit fresh roots. Mulching is, however, requisite to keep out frost, and earlier in the season to prevent evaporation. As tree leaves are always in request, either as a fermenting material, or for leaf soil, they should be carefully collected. If they are required only as manure, they may be stored in any by-place and left to rot; but if, as is generally the case, they are in demand as a cheap mode of furnishing bottom heat to Pines, as well as for forcing different kinds of vegetables, care should be taken to keep them dry. For this purpose they should be stacked-up in some back place, or behind the garden walls, where access to them can always be had; and after allowing time for them to settle, put on a coat of thatch to effectually secure them from rain. By these means they will remain fit for use for a twelvemonth.

GREENHOUSE AND CONSERVATORY.

In most places Chrysanthemums will soon be the chief features of attraction, and where these are largely grown, which they should be wherever there is a demand for flowers late in autumn, they make a fine display, and are worth every necessary attention to preserve them in beauty as long as possible. They are very impatient of a close, rather moist atmosphere, and if the house contains plants requiring such, the Chrysanthemums should, as far as practicable, be placed in the coolest part, where air can be given freely at every favourable opportunity, for unless they can be freely exposed to air, their foliage will soon be attacked and disfigured by mildew, especially if the plants are bushy and well grown. See also that they are kept well watered at the root. Use fire heat only when absolutely necessary, either to prevent the temperature from falling too low, or to dry the atmosphere. If Pelargoniums, Cinerarias, and Calceolarias must be wintered in the same house with Heaths and other hardwooded plants, they should be kept as much as possible by themselves, as they will require a somewhat closer temperature than hardwooded plants; but where circumstances admit, these should occupy a house or pit by themselves. Cinerarias and Pelargoniums intended for late flowering will do very well in a cold pit if the weather should not prove unfavourable; but those intended for flowering early should be placed where fire heat can be used, so as to preserve the foliage from damp. Roses for early forcing must soon be pruned, and placed where they will at least be safe from heavy rains. When American and other shrubs are used for forcing, these should be taken up and potted without delay, placing them in a cold pit until they are wanted for forcing, or in a turf pit, where they can be protected from severe weather by straw mats, shutters, or other covering. Summer-flowering twiners, which usually become unsightly at this season, should be cut-back freely, as well as any others that will submit to this treatment.

COLD PITS.

The time has now arrived for putting in readiness straw shutters, or whatever else it may be intended to use for coverings. Straw shutters, if well made, are expensive in the first instance, but are considered by many to be the most efficient of all coverings in use, and taking into account the time they last, they are, perhaps, as cheap as any. Expose the stock in pits freely to air at every opportunity, so as to check growth and render the wood firm. Little water will be required at the roots, but look over the plants every few days, withholding water until it is absolutely necessary, and then giving a moderate soaking. Heaths and other plants subject to the attacks of mildew, must be closely watched, and sulphur applied the moment the enemy is perceived.—W. KEANE.

DOINGS OF THE LAST WEEK.

Gardens Invaded by Roots of Trees.—An old correspondent proposes using clay in another way, and we regret to say that we can hold out to him little hope of success. He has a neat little flower garden in an open spot, with every advantage of full sunshine, while gusts of wind are kept out by a wide belt of trees, of which Ash, Elm, and Lime form part. Lately, though he changes the soil of his beds frequently, they soon become a mass of tree roots, and the flowers cease to thrive. His soil is a loam, in all respects good but for the interloping roots. He has clay fit for bricks at a short distance, and he purposes taking out a trench 2 feet deep all round his little flower garden, and by means of boards making a wall at least 9 inches wide of rammed clay, hoping this will make the roots turn back. We have no faith in the efficacy of the clay wall however firm. The roots, if they cannot easily pass through it, will go beneath it, and rise into the good soil, or go over the top of it, and strike down. Though such surface-rooters may not like the clay much, we have seen Ash and Elm roots filling clay with rootlets as thickly as they could well be, and all the more when something like instinct indicated to them that there was rich feeding-ground beyond.

We recollect of a well in a garden being filled with Lime-tree roots instead of water, and such a mass that they resembled a cheese or a piece of wood in firmness, and yet the roots to find their way there must have first passed a macadamised road, gone under the house and outhouses, and through part of the garden to the well. Roots often become similarly matted in drain tiles, and then it is impossible for water to pass. The masses of rootlets become so wedged-in, that they can only be seen by breaking the tile.

We have no faith, therefore, in a wall of clay, however puddled and hammered, in keeping out roots. Many kitchen gardens and flower gardens, however, suffer constantly from the incursions of the roots of trees, which in the fine soil soon spread like a network throughout. The only effectual mode in a flower garden for giving the flowers justice, and yet pre-

serving the shelter and beauty of the neighbouring trees, is to take out the soil all round the flower garden to the depth of a least 3 feet, and build a wall of brick and cement to within a few inches of the surface. It would be easy to prevent the roots passing over it under the turf. Nothing else will keep them out, and no flowering plants will long thrive if roots of Elm, Ash, and other trees, fill the soil. Some time ago, we were surprised to notice a plantation of Raspberries becoming worse every year, notwithstanding manuring. On examination, we found the soil a network of Elm roots, and they must have travelled 50 yards to reach the fine garden soil. In kitchen gardens unenclosed, an open trench or ditch fresh turned out frequently would be as effectual as the wall in the flower garden. We can recollect of numbers of flower beds that will only give the satisfaction which their position should command when the roots of trees are rigidly excluded from them. It is of little use cutting the roots, and supplying fresh soil; in one season the bed will be interlaced with fibres. Next to having plants devoured by vermin, there are few things more discouraging than attempting to grow flowers in beds crowded with the fibres and roots of surface-rooting trees.

Rubbish Heaps.—These are rather unsightly objects in most gardens, and will always be so where time cannot be found to attend to them properly. By the rubbish heap, we mean a heap of all the refuse that comes from a garden, the spent earth from the potting bench, all weeds, except seed and root weeds, which are best disposed of by burning, all Cabbage stalks and leaves, Bean stalks that are not burned or charred, short grass and mowings from the lawn when these do not form parts of fermenting manure heaps, and which add more richness than is imagined to all manure or compost heaps of which they form part. The rubbish heap, when properly managed, will be the means of returning to the garden much of what was taken from it, and for many purposes is not inferior to half-decomposed stable manure. Its enriching properties will to a great extent depend on bringing the whole mass into a state of gentle fermentation, and having the fermenting material so covered that the fertilising properties are allowed to escape into the open air as little as possible. The more this is attended to during the season, the more effective will dressings from the rubbish heap be.

KITCHEN GARDEN.

Took up the last of the Onions, and trenched the ground so as to be ready for planting Cabbages. Stirred the soil among those planted. Coleworts, &c., are growing rapidly after the rains, and Cauliflowers, which were almost standing still, have done wonders after the sewage water and the rains. Took up another piece of Carrots, as we wanted the ground.

Celery.—We have lately noticed this at considerable length, yet it may be as well to note that we have this season a little of the Celery grub or caterpillar, which we have not had for a number of years. Though we have not much of it, it is worth looking after and destroying, as thus we shall be more apt to escape its attentions in a subsequent season. The grub itself is rarely seen without looking for it, as it houses itself between the two skins of the leaf, and feeds on the tissues inside. Its presence is easily perceived by parts of the foliage assuming a dead, blistered appearance. In each of those blistered parts a caterpillar either is or has been, and the longer it remains the larger will the blistered space be, as the whole of the interior will be eaten up, except the gossamer-like skins left. The grub seems to have no access to air, except what may pass through the epidermis of the leaf. Many years ago we used to wonder how the grub found its way into the leaf, as not the smallest opening could be observed by which it could enter. The grub is the larva of a small and pretty fly (*Tephritis onopordinis*), the body of which is not a quarter of an inch in length, and the wings when expanded not more than half an inch across. These deposit their eggs under the epidermis of the Celery leaf in June and onwards. The eggs soon hatch into grubs, and these eat as they grow, until, arriving at maturity, they make a way out for themselves, go into the ground, and remain in a dormant chrysalis state until the next summer, when they appear in the winged state, and do little or no harm, except depositing their eggs to furnish future generations.

Squeezing the blistered places so as to destroy the grub will be sufficient, but it is preferable to cut the blisters off, and burn them, as they look unsightly, and this will prevent the grub arriving at the chrysalis state. Strong scents, as tar, will help to keep the winged insect away. Ten years ago, or more, after being visited with the grub in the previous year, we run some tar cord over the beds, and we also found dusting the foliage slightly with soot good means of keeping the insect from depositing its eggs. This once done, and the young grub protected by the epidermis of the leaf, no application to the foliage of any powder or liquid that would not hurt the plant will have any effect on the grubs. To destroy them they must be squeezed in their feeding chambers, or removed with their blistered domiciles. We should bear in mind that each of these grubs that safely passes the winter, and becomes a fly in the following summer, may, by depositing its eggs, be the parent of numberless grubs to cause trouble in the future.

FRUIT GARDEN.

The chief work has been looking after Strawberry plants in pots, and cleaning the main plantations, which ought to have been done earlier, only other work was so pressing; but the sooner the Strawberries are cleared of runners, and mulched after their bearing is over, the better it will be for them. If the heavy rains continue, a few of the forward plants in pots will be laid on their sides, as it is possible for them to be too much washed for the early ripening of the buds.

Gathered Apples and Pears on fine sunny days as the fruit became fit, for in this fine, mild, moist weather what will stand had better remain a little longer. Where the growth of the trees of early kinds is too rampant root-pruning may be resorted to as soon as the fruit is gathered, doing it gently, so as not to interfere with the next season's crop. Where planting is to be done, the ground should be prepared as soon as possible. In all cases where early fruiting is an object it is well to make hillocks above the surface, so that the roots at planting shall be nearly on the surface level. These will soon go deep enough if left to themselves; but the trees may be strong enough and fruitful enough, with the roots running near the surface, if surface-mulchings be used every summer, and especially after the ground becomes warmed by the sun's rays. If we could do as we like, we would trouble ourselves little with tall trees in orchards, but would grow most fruit trees in private gardens in quarters of bushes or pyramids, where they would suffer but little in such storms of wind as we have had this season, which in some places scarcely left a fruit on the trees. Apples, &c., were a drug in the country markets in consequence, but good keeping sorts we expect to be scarce and high-priced. Removed second breastwood from trees, that the autumn sun might have more power on the buds. Lighted fires, especially during the day, in late vineries, and looked after any appearance of damped berries. Turned the linings of beds that have Melons and Cucumbers in them. Pruned freely the beds of Cucumbers in frames that have borne all the season, and we expect to obtain more fruit from them before the autumn becomes too cold. The linings of these beds had never been turned previously since they were made in spring. The keeping a mild heat, especially in the front of the beds, is partly owing to the dry summer, and partly to the rough spouting in front, which prevented rains and heavy dews on the glass from trickling into the beds in front.

ORNAMENTAL DEPARTMENT.

Notwithstanding the rain and all drawbacks, the flower garden is still very fair, partly, no doubt, owing to the mildness of the weather. The chief drawback is that the leaves from lofty Elms and other trees are falling, and are driven over the smooth-cut lawns, these leaves falling all the sooner owing to the battering they had from each other during the tempests. After one of these tempests the foliage on fine trees looked as parched and brown as if the leaves had suddenly, when quite green, been visited with from 5° to 10° of frost.

Nearly finished all our cuttings for bedding except Calceolarias, and these we shall let alone for two or three weeks if the weather remain mild, as we hope it will do, for by that time we shall be able to move other cuttings to give them room; and if we insert the Calceolarias earlier they root too soon, and become too crowded in the cutting bed before we can turn them out into earth pits in spring. We are quite satisfied if our Calceolarias root little or none until the new year. We generally allow about 1½ inch from cutting to cutting. The heavy rains on Friday night have made the Calceolarias duller than they have been all the summer, as so many flowers have fallen, but there are plenty of strong buds ready to open, and they will be gay for some time if the weather continue mild and sunny.

Among florists' flowers, *Auriculas* should now be under protection, as they suffer much from dashing rains, and continued wet is apt to bring on canker and other evils. At this period no place is better than not far from the glass, in a frame or pit,

and for a few weeks the pots will be better set on a firm bottom, as on a slate or tile, instead of being plunged. Before taking them under glass the bottom of the pot should be examined to see if the hole is all clear, for it frequently becomes choked up, and the plant is water-logged, which is ruinous to an Auricula. In such mild weather the sashes should be raised back and front night and day, so that the plants may have abundance of air, and be sheltered from rain. After a month or so they will pass more safely through the winter if the pots be plunged in rough coal ashes, as the plunging is alike a preservative against frost and dryness; and thus treated, unless in very bright winters, the plants will require little watering unt ilthe spring.

Polyanthuses require rather less trouble than Auriculas, and the finest are well worthy of the extra attention. Pinks and Carnations, if potted, should receive all the air possible, so as to keep them strong and sturdy. Wallflowers may be potted for winter flowering. Dahlias are still in their beauty, and besides securing, they need no attention, except when frost is apprehended, placing 3 or 4 inches of soil round the stems, to save the tubers. Dahlias generally keep better when not taken up until the frost has arrested all growth, but they should not remain in the ground long afterwards, as, not to speak of frost, the damp and rains lodging about the collars of the tubers are apt to rot and destroy the incipient buds, even though the tubers to all appearance are perfectly safe.

In our cold pits, where the cuttings are striking, and the bases swelling, where a little whitening was put on the glass, we have removed the whole or the most of it, as the sun will not be too powerful for them now, and the cuttings will keep shorter and sturdier in consequence. Ere long we must remove many summer plants from the corridors and the conservatory, and replace them with winter plants. Now Heaths should be kept from rains, as too much wet and a deficiency of air will bring on mildew. These can rarely be kept in too airy a house, and direct air, even when rather cool, seldom does them any harm. Many hardwooded plants, however, though delighting in fresh air, as Leschenaultias, Boronias, Crowsea, Gompholobiums, &c., like a higher temperature than Heaths, and do not like a draught of cold air coming directly upon them. They should rarely in winter stand opposite front openings that communicate directly with the open air. A draught in which most Heaths would delight, would soon injure such as these, when blowing on them at once. Proceeded with potting, &c., as detailed in previous weeks' noticce.—R. F.

COVENT GARDEN MARKET.—October 6.

We have no improvement to report. Stocks are heavy and business quiet, inferior articles being scarcely saleable.

FRUIT.

	s.	d.	s.	d		s.	d.	s.	d
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	4	0	8	0
Cherries ..... lb.	0	0	0	0	Oranges 100	10	0	14	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	8	0	15	0
Currants .... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	2	0	4	0	Plums ..... ½ sieve	3	6	5	0
Filberts ..... lb.	0	6	1	0	Quinces ..... doz.	1	6	2	6
Cobs ..... lb.	9	6	9	9	Raspberries ..... lb.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Strawberries .... lb.	0	0	0	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts .....bushel	10	0	16	0
Lemons 100	10	0	16	0	do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d		s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms .... pottle	1	0	2	0
Beet, Red ..... doz.	2	0	3	0	Mustd.& Cress, punnet	0	2	0	3
Broccoli ..... bundle	1	0	0	0	Onions..doz. bunches	4	0	6	0
Brus. Sprouts ½ sieve	3	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	2	0	2	6	Peas ..... quart	1	0	1	6
Carrots ..... bunch	0	3	1	0	Potatoes ..... bushel	2	6	4	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	3	6	5	0
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb ..... bundle	0	0	0	6
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	8	0	0	Tomatoes ..... doz.	0	9	1	6
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	6
Horseradish .. bundle	3	0	5	0	Veget. Marrows .. doz.	1	0	2	8

TRADE CATALOGUES RECEIVED.

W. Rollisson & Sons, Tooting, London, S.W.—*Catalogue of Cape, Dutch, and other Bulbs, Roses, &c.*

Thomas Mc Kenzie & Sons, 31, Dawson Street, Dublin; Belfast; and Cork.—*Descriptive Catalogue of Dutch and other Flowering Bulbs, &c.*

H. Lane & Son, Great Berkhampstead.—*Descriptive Catalogue of Roses, Fruit Trees, American Plants, Conifers, Azalea indica, &c.*

John Scott, Merriott Nurseries, Crewkerne, Somerset.—*The Orchardist, or a Cultural and Descriptive Catalogue of Fruit Trees.*

TO CORRESPONDENTS

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Flee Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Gardeners' Year Book (*C R.*).—Your friend was correct. It contain a descriptive list, not only of fruits but of plants, &c., introduced during the previous year. You can have it post free from our office if you enclose fourteen postage stamps with your address.

Asparagus Kale (*A. C., Croydon*).—What you have for Asparagus Kale is Convo Tronchuda, or Portuguese Cabbage. It is sometimes called Asparagus Kale, the thick, fleshy ribs of the leaves being the parts used like Sea-kale; but the true Asparagus Kale is Chou de Milan, which in the spring produces long succulent shoots like Asparagus.

White Grape (*J. W. Peglar*).—Your Grape is not White Tokay, but one of the numerous white vintage Grapes of the south of France, and of no value as a dessert fruit. We cannot say positively which it is, but it evidently belongs to the Espagnins. Graft it with something better.

Colour of Grapes (*N. H. P.*).—A full supply of sap and exposure to light, and abundance of fresh air, secure to Grapes their proper colour. You will find the colouring of flowers, leaves, and fruit fully discussed in Johnson's "Science and Practice of Gardening," from which the following is extracted:—"Mr. Smithson's experiments, and those of M. Schubler, seem to indicate that the colouring matter of flowers and fruits is fundamentally blue—rendered red by acids or the addition of oxygen, or yellow by the presence of an alkali or the subtraction of oxygen. Mr. Smithson says, that the colouring matter of the Violet is the same in the ruddy tips of the Daisy, Pelargonium, blue Hyacinth, Hollyhock, Lavender, and various Plums, in the leaves of the Red Cabbage, and in the rind of the Salmon Radish. The acid which causes the red tint seems to be usually the carbonic."

Grapes Spotting (*Sophia*).—The cause usually is a defective supply of sap to the berries. The roots of the Vine, either from being too deep in the soil, too cold, or too dry, are not sufficiently active.

Fruit Trees for Pyramids (*W. Green*).—The following will suit you. Plant in the course of this month. We have added the times of ripening. *Pears:* Citron des Carmes, August; Beurré d'Amanlis, September; Louise Bonne of Jersey, October; Seckle, October; Van Mons Léon le Clerc, November; Fondante des Charneu, November; Beurré Berckmans, November to December; Winter Nelis, November to February; Beurré Sterckmens, January and February. *Apples:* Ashmead's Kernel, November to May; Cockle Pippin, January to April; Cornish Gilliflower, November to May; Lamb Abbey Pearmain, December to April; Nonpareil, January to May; Sturmer Pippin, January to June. *Plums:* Green Gage, Jefferson's, Coe's Golden Drop, Late Rivers, Damson. *Cherries:* Early purple Gean, Black Tartarian, Bigarreau, Late Duke.

Gardeners' Examinations (*Freirmoin*).—If you write Mr. Richards, Assistant Secretary, Royal Horticultural Society's Office, South Kensington, he will send you the necessary information. If in addition to your eight years' practice you make yourself master of the contents of the books you name, you ought to pass a good examination.

Pelargoniums (*W. A.*).—No list was enclosed with your note. We answered your query about Cyanophyllum on page 252. (*Ignoramus*).—All the so-called "Scarlet Geraniums," all the Zonals, Tricolors, &c., are Pelargoniums, and very near relatives of the Pelargoniums raised by Gaines, Beck, Hoyle, and others.

Seedling Pelargonium (*A.*).—The petals had all fallen. We think the colour is salmon pink. There are many of the same tint; but, perhaps, the nearest to your seedling is Monsieur Rendatler.

Mr. Cannell's Fuchsias.—The Fuchsias are very fine, the calyx and tube very deep-coloured, but there seems a coarseness and want of elegance. If the habit of the plants be good, and they are free-flowering varieties, they will be a great acquisition. Many of these large-flowering kinds are very shy in producing their blossoms.

Ranunculuses in Pots (*Iris*).—We do not advise their culture in pots, though it may be practised; 6 or 7-inch pots are the most suitable. They should be well drained, and if they are deep in proportion to the width, all the better. Use a compost of two parts turfy loam, strong rather than light, one part old cow dung, and one part river sand. Pot at once, as we suppose you want them for forcing, filling the pots to within 2 inches of the rim; then sprinkle a little sand on the surface, and place the roots on it, pressing them gently. Put three in a 6-inch, and five in a 7-inch pot, and cover them just over the crowns with sand, and then fill to the rim with soil. Plunge the pots to the rim in ashes

out of doors, and they may eo remain until Christmas, a little dry litter being placed over them in severe weather, but remove it whenever the temperature is mild Atont Christmas the pots may be set on a shelf in a greenhouse, and a moderate supply of water should be given at first, increasing it as the plants grow, and when advanced for bloom a good supply of water should be given. The best tubers for forcing are those which have rested early .for forcing early they ought to be potted in Augus t,and may then be introduced into the greenhouse in November; they will flower in February or March. Tubers which have been kept a year over the season of planting are best for very early forcing, as they are more easily excited. They may be potted in August, and placed in the greenhouse six weeks afterwards ;and by introducing them at different periods, bloom may be kept up from November to March. A window will do if you have no greenhouse.

IRISES IN POTS (*Idem*).—They will succeed in pots. Pot them at once. The pots need not be larger than sufficient to contain the bulbs well, and three or more may be placed in a pot. Drain the pots well, using a compost of equal parts of turfy loam, leaf mould, and sandy peat, with about one-sixth of sharp sand. Cover the bulbs about an inch deep, placing sand round them. In other respects the treatment advised for the Ranunculuses is applicable to the Iris.

CONCRETING FRUIT-TREE BORDER (*F. H*).—We would not take out the soil deeper than 2 feet 6 inches, or 3 feet, and that will in some degree help to raise the border, which we would elevate somewhat above the surrounding ground level. The bottom of the border should incline from the wall to the front. 1 foot in 12 feet will be a sufficient incline. Along the front you will need a drain, and you should leave a sort of channe lto receive it. The drain must not be laid until the bottom has been concreted, therefore you will allow fall for the drain accordingly. You may concrete the border in parts, taking care to keep the proper levels. Having made the excavation, put in a 3-inch layer of coarse gravel, ram it firm ,and then ron with concrete, formed of nine parts gravel and one part unslaked lime; slake it, and cover it with the gravel, then add sufficient water to bring the concrete to the consistency of very thin mortar; a thickness of 3 inches of concrete will be necessary. It ought to be made so thin that it must be carried in a bucket. The gravel used should be of the same kind as put upon walks. Let the concrete stiffen a little until it will bear treading upon; then roll it firm, or ram it hard, leaving a smooth surface. Let it stand until firm, and then finish with an inch thick of fine gravel mixed with lime, in the proportion of one part lime to three of gravel, and this mixture cannot be too soft. When it becomes stiff and hard, as it will do in a few days, put in the rough stones for drainage, not less than 6 inches in thickness, and the drain along the front, which should be placed on the concrete and be covered with the drainage. If you do not object to the expense, one part in six of Portland cement added to the lime and gravel for the last 1-inch coating would be more certain to prevent the roots penetrating the concrete, though we never knew them pass the lime and gravel. In place of 1 inch thick of lime and gravel, you may have a layer half an inch thick of Portland cement one part, and fine gravel three parts. This when run and dry will resist anything, but it would be more costly.

LIME WATER FOR EXPELLING WORMS (*J. A.*).—Over 12 lbs. of fresh lime pour thirty gallons of water, stir well up, let the liquid stand forty-eight hours, and then, having stopped the holes in the pots with clay, deinge the soil with the clear lime water only, and the worms will come to the surface. Remove the clay from the pot holes after six hours, taking care to make the drainage free.

WORMS IN LAWN (*R. B. N.*).—Water it with lime water, made by placing 12 lbs. of fresh or unslacked lime in a hogshead, and pouring thirty gallons of water over it, stirring it well up, and allowing to stand forty-eight hours. The lawn is to be watered with the clear liquid by means of a rose watering-pot during damp weather, giving a good soaking the evening succeeding one upon which a good watering has been given. Ammoniacal liquor diluted with six times its volume of water, will answer even better than the lime water; but it has the disadvantage of making the lawn look brown for a time. Both act by bringing the worms to the surface, whence they may be swept up and cleared away.

TAKING UP GLADIOLUS BULBS (*J. Watson*).—The bulbs should be taken up when the foliage begins to turn yellow. This is better than allowing them to remain until the leaves are quite dead; and a better plan than either, in all well-drained soils, is to leave the bulbs in the ground all the year, and give a 3-inch mulching of leaf mould in November. In wet soils, however, it does not answer.

TAKING A HORNETS' NEST (*X., Sidmouth*).—Have you no one with the courage to wrap a cloth round the nest at night, remove it from the beam in your barn, and drown the inmates in a bucket of water? If not, procure some strips of pasteboard and dip the ends in melted brimstone, not prepared sulphur, but what is known as stone brimstone. The pieces of pasteboard may be about 3 inches long, and should when dipped be placed on short pegs with a notch in them. Take a bee hive, wet it inside, put the sulphur in its top inside, which will become the bottom when the hive is inverted, and cover the hive with a cloth large enough to envelope it. The cloth should have strings so that it can be tightly tied to the hive, and in the cloth where it covers the bottom of the hive have a hole in the centre about 6 inches in diameter. Put the hive on a pitchfork, light the brimstone matches, cover with the cloth, and place it so that the opening in the cloth will include the hole in the hornets' nest, press it gently or keep it close to the nest. The brimstone fumes will pass from the hive through the opening in the cloth to the hornets within the nest, and you may in a few minutes remove the nest without fear of its inmates.

GLADIOLUS BLOOMING IN JUNE (*J. R. P. Tilburston*).—The Ramosus section of Gladiolus bloom early, and doubtless from your description yours is one of them.

ROSES FOR A SOUTH WALL (*A Subscriber*).—The wing walls to your conservatory will answer well for Roses *Tea-scented*—Gloire de Dijon, Climbing Devoniensis, Maréchal Niel, Madame Falcot, Niphetos, Narcisse, and Safrano. *Noisettes*—Céline Forestier, La Biche, Lamarque, Ophirie, Solfaterre, and Cloth of Gold. We should prefer them on their own roots. The best soil is a moderately strong loam, but not very heavy, that being best which is taken from the top of a pasture about 4 inches thick, turf and all enriched with a fourth part each of cow dung and leaf soil, adding about one-sixth of sharp sand. The turf should be chopped rather fine, and the whole well incorporated, planting in a little old turf.

CLIMBING DEVONIENSIS ROSE NOT FLOWERING (*An Amateur*).—We would not lift the plant but merely thin out the shoots where too crowded, and not shorten these much ,merely removing the unripe points. It very likely will bloom finely next year; besides, it is better for a plant to make vigorous growth after planting, than to make poor growth and bloom soon after planting. If it do no tflower next year you can lift it in the, autumn. It is a very vigorous grower, but is it not grand, both in foliage and flower?

MADAME DE ROTHSCHILD ROSE (*Idem*).—I is a good light Rose, and opens freely, and from its habit we should think suitable for a cold climate. Xavier Olibo would also be suitable.

HYACINTHS TO FLOWER AT CHRISTMAS (*Idem*).—To have them flower at Christmas, the bulbs potted about three weeks ago should be placed in heat at the end of October, or beginning of November. The slower they are brought forward the finer they will be, and they cannot be kept too near the glass, or have too much air; 45° at night will be sufficient excitement for three weeks, then raise it to 50°, bringing them into bloom with a temperature of 50° to 55° at night and on dull days. Narcissus and Tulips succeed under the same treatment, giving an abundance of air and light to keep them from drawing.

GRUBS AND CATERPILLARS DESTROYING CABBAGE PLANTS (*J. B, Enfield*).—The grubs are, no doubt, the leather coat, a brown short grub. The only remedy is to pick away the soil from about the plants and secure the pests, which when disturbed roll themselves into a sort of ball. They eat off the stem of the plants close to the surface. An intelligent lad will take an immense number in a day. For the caterpillars we do no tknow of a better remedy than dusting with fresh lime early in the morning while tthe leaves are wet; but if you have tried that two or three times and it fails, we would advise hand-picking, which though a tedious is a certain mode of riddance.

WORMS IN POTS (*W. A. O.*).—See answer to another correspondent, "J. A." in to-day's Journal.

CAPE JASMINE (*Idem*).—The shoot of the Gardenia florida sent has a bloom-bud at its point, which will give the flowers of next spring. You must not now cut away the shoots, as from their points are produced next year's flowers.

LIBONIA FLORIBUNDA (*Idem*).—To have it flower in winter a good growth should have been made, and have it well matured by exposure to light and air, affording a period of rest for at least six weeks, by keeping drier and closer before exciting into growth, for which a temperature of 60° to 65° at night, and 70° to 75° by day is necessary, with a moist growing heat. Afford a light airy position, and do not overwater, but keep the soil moist. Good drainage is necessary.

SCHIZOSTYLIS (TRITONIA) COCCINEA TREATMENT (*Idem*).—It is a bulbous plant and flowers in autumn, and continues into winter. It is best treated as a half-hardy plant, though it is quite hardy. Pot it now if it ie not flowering, and keep it in a cool greenhouse through the winter, giving a good watering after potting, and do not allow the soil to become dry in winter. In potting do not disturb the roots, but pot with the ball entire, merely removing the surface soil, the drainage, and the loose soil. A compost of two parts turfy loam, one part old cow dung, and one part peat, with one-sixth of sharp sand will grow it well. Good drainage is necessary; cut away the old stalks as they become yellow close to the soil. If it is flowering, pot when the flowering is past. When growing freely, water copiously and sprinkle with water twice a-day to keep down red spider. After May move to a sheltered position out of doors, or grow in a cold pit, taking into a cold house for flowering, and it will bloom for weeks.

AQUATICS (*D. H.*).—In a smoky atmosphere we have grown the following:—Nymphæa alba, white, 2 to 3 feet; Nuphar lutea, yellow, 18 inches to 2 feet; Aponogeton distachyon, white, 1 to 2 feet; Alisma plantago, purple and white, 1 foot; A. natans, white, 6 inches; Acorus Calamus, flowers apetalous; Butomus umbellatus, pink, 1 foot or margin; Caltha palustris, flore-pleno, yellow, margin; Cyperus glomeratus, 6 inches; Iris pseud-acorus variegatus, 1 foot or margin; Myriophyllum spicatum; M. verticillatum, green, 1 foot to 2 feet; Menyanthes trifoliata, white, margin; Hottonia palustris, flesh, 6 inches and margin; Lysimachia thyrsiflora, yellow, 6 inches and margin; Villarsia nymphoides, yellow, 2 to 3 feet; Statices aloides, white, 6 to 18 inches; Ranunculus aquatilis, white, 6 inches; Potamogeton densum if you wish to have the surface all green, if not avoid the last. They may all be procured through any of the principal London or provincial nurserymen. We cannot recommend dealers.

TULIPS PLANTING (*H. F.*).—You may pot each bulb in a 4-inch pot, and plunge the pots in soil 1 inch above the rims. We would put in a few rough cinders in each pot for drainage, and that will allow of the roots to some extent passing out, whilst enough of roots will be preserved in the pots to allow of their being removed after flowering. They and the Narcissus should be planted this month, and not later than the beginning of November. 6-inch pots will be necessary for the Narcissus.

NAMES OF FRUITS (*F. L. A.*).—2, Kirke's Lord Nelson; 4, Manks Codlin; 5, Herefordshire Pearmain; 6, Winter Quoening; 7, Sturmer Pippin; 8, Norfolk Beefing; 9, Dutch Codlin; 10, Keswick Codlin. (*Inquirer*).—1, Baronne de Mello; 2, Beurré Giffard; 3, Dunmore. (*Centurion*).—1, Catillac is correct; 2, Beurré Diel; 3, Franklin's Golden Pippin; 4, Certainly not Easter Beurré. It appears to be Verulam; 5, Suffolk Thorn; 6, We are in doubts about this. It is very much like Triomphe de Jodoigne; 7, Glou Morçeau; 8, Frizzled Nut; 9, Reine Claude de Bavay is quite correct. (*W. Noble*).—1, Beurré Letèvre; 2, Nouvean Poitean; 3, Urbaniste; 4, Beurré Superfin. (*Avonitensis*).—1, Beurré Diel; 2, Napoléon; 3, Unknown, worthless; 4, Flemish Beauty; 7, Soldat Esperen, (*W. Cutbush & Son*).—Headcroft Seedling. (*E. A. W.*).—1, Catillac; 3, Van Mons Leon le Clerc; 4, Bergamotte Esperen; 6, Beurré Diel; 7, Beurré Nantais; 8, Van Marum; 9, Triomphe de Jodoigne; 10, Fondante d'Automne. (*E. A. L.*).—1, Easter Beurré; 2, Colorée d'Août; 3, Lucien Le Clerc.

NAMES OF PLANTS (*Black Bantam*).—It is one of the many variations but an uncommon one, of Scolopendrium vulgare, Hart's Tongue. (*Rev. E. H.*).—It is quite impossible for us to name florists' flowers. They are in legions, and floriste themselves have great difficulty in identifying them, even when they see an entire plant; they so nearly resemble others. (*A. Green*).—1, Cyrtomium caryotideum; 2, Cyrtominm falcatum; 3, Genista canariensis; 5, Tussilago japonica. (*E. J. Birmingham*).—We cannot name plants from their leaves only.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 5th.

Date.	Barometer.		Thermometer. Air.		Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 29	29.580	29.514	76	55	58	56	S.	.02	Very fine; clear and very fine; densely overcast.
Thurs. 30	29.570	29.512	70	47	61	57	E.	.82	Overcast; cloudy, very mild; heavy showers.
Fri.... 1	29.730	29.694	67	50	60	57	S.	.04	Showery; cloudy, but fine; clear and fine.
Sat.... 2	29.705	29.684	62	52	58	56	S.E.	.24	Densely overcast, slight rain; overcast; showery.
Sun... 3	29.976	29.724	69	41	60	57	N.W.	.00	Cloudy, very damp; very fine; clear and very fine.
Mon.. 4	30.114	29.096	67	47	57	56	W.	.00	Dense fog; very fine; dense fog, cold air.
Tues.. 5	30.134	30.104	64	58	56	56	N.	.00	Heavy fog; hazy; overcast; foggy and cold.
Mean..	29.827	29.611	67.86	47.14	58.43	56.43	...	0.62	

POULTRY, BEE, AND PIGEON CHRONICLE.

LONDON POULTRY SHOW.

A meeting of those interested in the above was held on Tuesday last, at Evans's Hotel, Covent Garden, Mr. Esquilant in the chair. Amongst those present were Messrs. James, Jones, Crooke, Ford, Hans, Toby, Hale, Boutchere, Esden, Fulton, Wright, Hastelow, Howard, Waller, Burge, Davis, Wright, &c.

It was the unanimous agreement of those present, that a Poultry, Pigeon, and Rabbit Show should be held in the metropolis during the present year, provided there be a sufficient guarantee fund raised to warrant a Committee commencing without the fear of a considerable pecuniary loss to themselves.

The feeling of the meeting was decidedly in favour of holding the Show during the Cattle Show week, and, if possible, at the Floral Hall, Covent Garden, but as there appeared to be a doubt whether the proprietors would let the Hall for such a purpose, through the objections made by several residents of the neighbourhood; among a number of other places suggested the Crystal Palace was named as a most suitable place, and likely to draw a large attendance of visitors.

A Committee was then appointed, composed of the following nine gentlemen, with power to add to their number—viz., Messrs. Esquilant, James, Jones, Crooke, Ford, Tegetmeier, Hans, Howard, and Esden, who will report at a general meeting to be held on the 19th inst., at 4 P.M., at Evans's Hotel, the place they consider most desirable for the Show, and the amount of support they have received towards the guarantee fund and other expenses, also an estimate of the cost of the whole Exhibition. Decided steps to be then taken if the Show is to be held this year.

The sum guaranteed at the meeting was about £50. A prize of £10 from the *Field*, another of £5 from *Land and Water*, and nearly another £10 was promised by some of the gentlemen present towards the prizes and expenses. The Proprietors of The Journal of Horticulture will also give a prize, or contribute £10 towards the expenses.

There now seems every chance of the Exhibition being started with little fear of a failure, but this will, of course, depend in a great measure upon the activity of the Committee. Those present expressed their surprise that a similar meeting had never been held, and this in some way may account for previous failures at attempts to hold a Show in the metropolis.

A FEW DAYS IN A CHICKEN DISTRICT OF SUSSEX.

"They must manage them better in Sussex." "Then why do you not go there and inquire?" To this home response no ready rejoinder rose to my mind, and then the querist added, "You are fond of antiquities, you are fond of rustic simplicity, you are fond of shooting, you are fond of poultry-keeping, so, why not go with me to-morrow?" There was no adverse reason, so my gun-case, portmanteau, and self, were at the Victoria Station, and by two of the afternoon of the day following I was in the parish of Heathfield, in the county of Sussex.

I wonder how many of your readers know where that parish lies, for it is six miles from a railway station, and never had a stage coach run through any one of its widely separated margins. Well, there I was, and there I shot, and there I feasted on home-laid eggs, home-made butter, home-made bread, cream as thick as hasty pudding, vegetables fresh cut, and chickens such as Sussex breeds. Ah! there's the subject of my special research. "They must manage them better in Sussex." That observation resulted from reading a letter written by a well-known poultry-fancier, stating that "only twenty chickens were reared of eighty-five that were hatched." However, I shall tell my story in my own way, and any one objecting to my preface can "skip" to the more practical portion. If I am prosy I like to be prosy, and if you do not choose to permit me to be prosy, don't print my notes.

The two-miles walk from my friend's farm to Heathfield church is across fields, and over hills and dales, through farmyards, and by the side of plantations that would have made a misanthrope smile that day, so gladsome were they in the unclouded sunshine. The church was reached, the keeper of its key was found, and the key was placed in my hand, and I was allowed to enter and remain in the church quite unattended. I might have carried off all its bibles and prayer books unhindered. This was no carelessness, no want of vigilance, but the result of people honest, confiding in the honesty of others. Thus for days I went into the sheds among the cooped chickens in the neighbourhood. There were hundreds of chickens, every door open, and not a living human being in the houses of the owners. They were all away "hopping!" The honesty prevails even where it is rarely met with—namely, in the epitaphs, for in the church chancel on a marble slab to the memory of Thomas Courthope, and Mary his wife, without any dates or other verbiage are appended these lines—

"A happier couple
There never was wed,
But much more so
Now they are dead."

Let us hope that this is true, but it savours of honesty refraining from suggesting that any regret was felt by their survivors.

The very iron that used to be here manufactured—the hills are full of iron ore, and the springs chalybeate—was the most honest iron of our foundries. It was the hardest and toughest, cannon made from it would bear a heavier charge than cannon made from the iron of other localities. Lord Heathfield, whose memorial tower is on the hill to the right as I descended from the church, could bear testimony to this, as the defender of Gibraltar. His choice of title and residence here were thus far appropriate, and looking from his mansion's windows upon Warbleton church, he there saw where one of the district's most celebrated iron-founders, Richard Woodman, was confined previous to his martyrdom at Lewes.

I have not said much as yet about chickens; and before I say more concerning them, let me tell any brother pilgrim straying to Heathfield, to notice within as well as without the over-shot watermill at the base of the church hill. For picturesque position, and for antique formation, it cannot be exceeded in all England. The miller told me it is known to have been there more than four and a half centuries. He, like everyone around, is a breeder of chickens, and there in one of his sheds were a lot of them in the horseshoe-shaped coop peculiar to the district, waiting to be fetched away by some local fatter of poultry. They were made of the horseshoe form to fit round the waist of a man, with a leathern suspender over his shoulders. That was in days when the collectors were pedestrians, and the form remains unaltered, though better roads, and the greater number of chickens to be collected render feasible the employment of horses and carts for the purpose.

This is a district of none but small, very small, farms, and labourers' cottages, and I commend all those who take an interest in answering the question, "Are small farms desirable?" to sojourn here and judge from the evidence attainable by his own eyes and ears.

These small-farm holders, and these cottagers, are all breeders of chickens. The coops are to be seen on the grass verges by the sides of the roads, and the corners of the fields; there are hundreds of these coops in the parish of Heathfield. The

breeders are not fatters of chickens, but the fatters journey round at stated intervals, and collect the chickens of an age fitting them for the fatting-coop. The fatters are not those who send the chickens to the London market, they only fat, kill, and pick them, ready on a stated day for the higgler to fetch them, pack them, and send them to London. The productiveness of this district of chickens is evidenced by the fact, that two higglers in the village of Heathfield send between them one hundred dozen of chickens three times a-week to London —that is, 3600 chickens weekly. One of these higglers alone once sent to London all at one time, 105 dozen of chickens. This was the largest consignment ever known there to have been made by one man.

The variety of fowl universally bred here, and popularly known as "Sussex fowls," are Dorkings in form, minus the extra claw, and neither entirely dark nor entirely white-feathered. The ground colour of the plumage is white, but thickly and irregularly marked with feathers black and brown. They are white or grey-legged, and with a very large development of muscle on the breast—that is, as was expressed by my informant, "the breast's very meaty." They are a hardy breed, but it is a hardiness arising from robust health, for I saw on the 25th of September a Dorking hen drafted from Lady Holmesdale's celebrated stock, with a brood, all from her own eggs, of sixteen. They were six weeks old, all white speckled with black and brown; she had sat upon seventeen eggs, their sire was a Sussex cock, and not one had died. On the same day at a cottager's by the roadside I saw a brood of twelve not a week old.

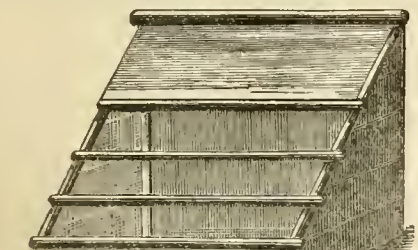
Hatching goes on all the year round; but they generally like to have a brood at the beginning of February, which may be called the first of the season, and as long as eggs can be obtained, and hens are broody, hatching proceeds, and even at Christmas small chicks are quite common. At this season the hen and chicks are kept in a dry and warm place, a waggon lodge being considered as preferable a place as can be found. The great thing is to let them have plenty of room and air.

The ordinary sitting is thirteen eggs, and fifteen is very common; but ten and twelve are the usual numbers. It is preferred to have the nest on the ground, but if a hen has selected one elevated from the earth, the eggs are sprinkled with water daily when she leaves the nest, and a little fresh grass placed under them.

How long the hen is confined under a coop depends on the season; during fine weather, and in the height of summer, about four or five weeks.

The chickens are fed three and four times a-day, and oftener whilst small. Whilst small chicks they are fed at six o'clock in the morning. The food given them is ground oats made into a thick paste with water.

The hens and chickens under coops by the roadside, and elsewhere, are left out all night. The coops are uniformly of this shape, are about 2½ feet long, 2 feet wide and the same in



height. They are close-boarded at each end and at the back, and partly so at the top in front, so as to form a sheltering roof. A board is put in during wet weather for the hen to brood the chickens on.

The fatters of chickens have them in an enclosed shed, and there in coops down its two sides and one end—coops formed entirely of rails, and so narrow that when their heads are in the feeding trough outside the coop their tails press against its back—they are fatted in about ten days. They are fed twice daily on ground oats made into a thick gruel with milk.

Under this system of management from the nest to the fatting coop the deaths are so few as not to be noteworthy. Why does this result stand out in such enviable contrast to the mortality usual in the poultry-yard of the amateur? I have no doubt it is because the parents are more healthy and vigorous than those kept in confined, stuffy enclosures, and because the chickens breathe nothing but pure air, and have healthful exercise in their search for insects and other food. The chickens reared by amateurs, like the children reared in London courts and alleys, have a diseased or sickly parentage, and have to breathe air contaminated by the exhalations and excreets from many bodies.

The soil about Heathfield is clayey, and, therefore, not such as is most conducive to animal health; but most of the springs are chalybeate, which may have a tonic influence over the fowls. These facts enforce the importance of keeping very few in a small space; to have that space ventilated as much as possible; cleaned thoroughly daily; fresh gravel spread over the surface frequently; some rusty iron to be in the drinking water, and that water changed daily.

There is no exaggeration in my statement of the non-mortality among the Sussex-bred chickens, for I especially pressed the inquiry, and the last hen-wife inquired of seemed staggered at the question when asked how many chicks she lost out of a hundred hatched. A latent smile played about her lips as she stuttered out, "How do you mean, sir?" On repeating the question more explicitly, as she appeared not quite to comprehend the first form of it, she replied, "Well, I don't know as ever I lose any, sir." "How many have you reared this year since spring?" "Over two hundred." "And how many of them did you lose?" "I think I did lose one, but it was always weakly." She added that through the winter chickens require a little more looking after, by keeping them in a dry and "warmish" place, which means a cart-lodge or some such shelter. Chickens, she observed, want to be often moved on the ground, and they should never be allowed to remain long enough for it to become "stenchy." Too much food should never be given at a time, but little and often; and they should always have "cleared out" before more is given.—G.

OSWESTRY POULTRY SHOW.

Perhaps one of the chief features of the Oswestry Show, which took place on the 1st inst., was the class for Dark *Brahmas;* and this is the more remarkable, as this useful variety of poultry has hitherto been comparatively unknown in the district. Grey *Dorkings* were especially good, but it was a matter of regret to find a pen of fearfully roupy White Dorkings entered in this class. Very properly the birds were at once repacked by the Committee and returned to their owner. They had evidently been diseased for a considerable time, and it is a pity they should have been forwarded at all, for it is well known no ailment of poultry is so easily communicated by infection, or so very difficult to eradicate. A glance at the names of the competitors in the Aylesbury *Duck* class will convince our readers that it was one of the best in the show tent. Many of the *Game* fowls well maintained the high reputation which the district enjoys for this breed of poultry, and the condition in which they were penned was faultless. The weather was bright and sunny, and the meeting most successful.

CHICKENS.

Game (Black or Brown-breasted Red).—1, W. Perrin, Nantwich. 2, S. White, Oswestry. *hc*, P. A. Beck, Guilsfield. *c*, Rev. P. G. Bentley.

Game (Duckwing Grey and White or Piles).—1, Mrs. E. Winwood, Worcester. 2, T. Dyson, Halifax.

Dorkings.—1, Rev. E. Bartrum, Great Berkhampstead. 2, E. Shaw Plas Wilmot, Oswestry.

Cochin-China (Brown or Partridge).—1, C. Sidgwick, Ryddlesden Hall, Keighley. 2, Miss Story, Lockington. *hc*, J. K. Fowler. *c*, E. Shaw.

Cochin-China (White or Buff).—1, C. Sidgwick. 2, C. Banbury, Penfields, Wolverhampton. *c*, J. L. Williams, Llansilin.

Spanish.—1, Tonkin & Tuckey, Bristol. 2, F. James, Peckham Rye. *hc*, H. & S. Cooper, Walsall. *c*, J. Clews, Walsall.

Brahma Pootra (Dark).—1 and 2, H. B. Morrell, Caemawr, Clyro. *hc*, E. Leech, Rochdale; W. B. Etches, Whitchurch; C. Leyland, Morrisbrook, Warrington; W. Gamon, Chester.

Brahma Pootra (Light).—1, L. H. Ricketts, Banwell. 2, T. A. Dean.

Hamburghs (Silver or Gold-pencilled).—1, A. Woods, Sefton, Liverpool (Silver-pencilled). 2, W. Speakman, Nantwich (Golden-pencilled). *c*, H. Worthington, Aigburth (Silver-pencilled).

Hamburghs (Silver or Gold-spangled).—1, E. Brierley, Heywood, Manchester. 2, T. Blackman, Tettenhall. *c*, S. & R. Ashton, Mottram; T. May (Gold-spangled).

Crève-Cœurs.—1, Mrs. M. Seamons, Hartwell, Aylesbury. 2, E. Williams, Henllys, Berriew.

Houdans.—1 and 2, W. O. Quibell, Newark.

Any other Distinct Variety.—1, C. Sidgwick. 2 and *hc*, W. Gamon (Polands).

Game Bantam.—1, J. Atkins, jun., Walsall. 2, T. Dyson. *c*, W. B. Etches.

Bantam (Any other variety).—1, Rev. G. F. Hodson, North Petherton, Bridgwater (Gold-laced). 2, H. Yardley, Birmingham (Sebrights). *c*, S. and R. Ashton; Miss N. Platt, Dean, Bolton.

Turkeys.—Prize, E. Leech.

Geese.—1, M. Seamons. 2, E. Leech.

Ducks (Aylesbury).—1, S. H. Stott, Rochdale; 2, J. K. Fowler. *hc*, E. Leech; M. Seamons; J. K. Fowler.

Ducks (Rouen).—1 and c, W. Gamon. 2, J. K. Fowler. hc, L. H. Ricketts.

Selling Class.—1, 2, and c, E. Shaw.

LOCAL CLASSES.

Game (Black-breasted).—1, J. Crutchloe, Oswestry. 2, S. White, Oswestry. c, E. Shaw.

Game (Any colour).—1, E. Shaw. 2, J. Crutchloe. c, S. White.

Dorking.—1 and 2, E. Shaw.

Amateurs' Prizes.—1, E. Shaw, Plas Wilmot. 2, Withheld.

Edward Hewitt, Esq., of Birmingham, was Judge.

FARNWORTH POULTRY SHOW.

The following is the list of awards made at this Show held at Farnworth, near Warrington, on the 30th of September:—

CHICKENS.

Game (Black-breasted).—1, C. Chaloner, Whitwell, Chesterfield. 2, J. Halsall, Ince, Wigan. hc, G. Bagnall, near Cheadle, Staffordshire; J. Platt, Swanlow, Winsford.

Game (Brown breasted).—1, J. Wood, Meathouse, Wigan. 2, J. Platt. hc, T. Dyson, Halifax; C. Chaloner.

Game (Any other variety).—1, C. Chaloner. 2, J. Halsall (Duckwing). hc, E. Noble, Halifax (Piles).

Dorkings.—1 and Cup, E. Leech, Rochdale. 2, J. White, Warlaby, Northallerton. hc, Rev. E. Bartrum, Great Berkhampstead; Viscount Tarneor, Shillingtee Park, Petworth; E. Ryder, Harrytown, Stockport; J. Stott, Healey, Rochdale.

Spanish.—1 and Cup, F. & C. Howarth, Nowfield, Haslingden. 2, H. Beldon, Goltstock, Bingley. hc, T. Coomber, Rainhill.

Cochin-China (Cinnamon or Buff.—1, Cup, and 2, W. A. Taylor, Manchester (Buff. hc, C. Sidgwick, Keighley; T. Stretch, Ormskirk. c, J. Cattell, Birmingham.

Cochin-China (Partridge-feather, or any other variety).—1, C Sidgwick. 2, B. Bather, Parbuck. hc, C. Sidgwick; T. Stretch. c, A. Wilkinson, Queniborough Hall, Leicester.

Hamburghs.—*Gold-n-pencilled.*—1 H. Beldon. 2, W. Pierce, Hartford, Northwich. hc, W. Clayton, Morton Banks, Keighley. *Golden-spangled.* 1, J. Chadderton, Hollinwood. 2, Duke of Sutherland, Trentham. hc, J. Buckley, Taunton, Ashton-under-Lyne; T. Walker, Denton, Manchester; H. Beldon. c, J. Ogden, Hollinwood. *Silver-pencilled.*—1, H. Beldon. 2, Duke of Sutherland. hc, T. Walker. *Silver-spangled.*—1 and Cup, T. Walker. 2, J. Fielding, Newchurch, Manchester. hc, H. Beldon; N. Marlor, Denton, Manchester.

Polands (Any variety).—1 and 2, W. Gamon. hc, J. Partington (Silver-spangled); J. S. Senior, Batley Carr, Dewsbury.

Brahma Pootra (Any colour).—1 and Cup, F. & C. Howarth. 2, W. Gamon. hc, E. Leech; C. Leyland, Warrington; A. Wilkinson.

Game Bantams (Any colour).—1 and Cup, J. Crossland, jun., Wakefield. 2, W. F. Entwisle, Leeds hc, J. Crossland, jun; H. Semach, Southwell.

Bantams (Any breed).—1, T. C. Harrison, Hull. 2, N. Platt, Dean.

Any other Distinct Variety (Not included in the above classes).—1, N. Marlor. 2, C. Leyland (French).

Selling Class (Any colour or breed).—1, C. W. Brierley, Middleton. 2, G. J. Taylor, Huddersfield (Gold-pencilled Hamburghs). hc, J. Copple, Eccleston, Prescot (Dorkings); W. A. Taylor; F. & C. Howarth, Newfield, Haslingden.

Single Cocks.—*Game.*—1 and Cup, C. W. Brierley, Middleton. 2, C. Chaloner. hc, J. Wond; J. R. Fletcher, Stoneclough, Manchester. c, J. Holland, Manchester. *Game Bantams.*—1 and Cup, W. F. Entwisle. hc, J. Crossland, jun; R. B. Riley, Halifax; J. Holland; J. Halsall (Black); Harwood & Buckley.

Ducks (Rouen).—1, W. V. Kearne, Gateacre. 2, J. Dickenson, Leigh. hc, G. Bagnall, Draycott, Cheadle; J. Woods, Wigan; C. P. Ackers, Brookside, Abram.

Ducks (Aylesbury).—1, Mrs. Seamons. 2, S. H. Stott, Rochdale. hc, Mrs. M. Hornby, Swanlow, Winsford.

Ducks (Any other variety).—1, C. W. Brierley. 2, R. Gladstone, jun., Broadgreen (Carolinas). hc, R. Gladstone, jun. (Brown Calls); T. & R. Ashton, Mottram (Carolinas); J. Wood (Black East Indians); J. Young, Widnes (East Indian); C. W. Brierley. c, H. Beldon.

Geese.—1, E. Leech. 2, S. H. Stott. hc, Mrs. M. Seamons, Hartwell, Aylesbury; R. Gladstone, jun. (Greys); Rev. G. Hustler, Stillingfleet Vicarage, York (Whites); S. H. Stott.

Turkeys.—1, E. Leech. 2, T. Coomber.

The Judges were Mr. Richard Teebay, Fulwood, Preston; Mr. Joseph Hindson, Barton House, Everton; and Mr. Dixon, Bradford.

NORTHALLERTON POULTRY SHOW.

The poultry department of this year's Show, held September 30th, proved the greatest success that the Society has ever had. Not only were the classes, as a whole, remarkably good, but the day was delightful. The *Dorkings*, *Game*, and *Spanish* were generally good; of *Hamburghs* the Pencilled were far superior to the Spangled varieties. The first-prize Golden-pencilled cockerel was a splendid bird. In the *Geese* and *Duck* classes the winners were large and well framed.

Dorkings.—1, 2, and c, J. White, Warlaby. hc, W. C. Booth, Orsa, Catterick.

Game.—1, W. Bearpark, Ainderby Steeple. 2, G. & C. Lancaster, Morton Grange. hc and c, J. Watson, Knaresborough.

Spanish.—1, W. Bearpark. 2, W. Charter, Driffield. hc, W. P. Lawes, Brompton. c, J. Robson, Thornton-le-Moor.

Cochin-China.—1, J. Bell (Partridge). 2, F. H. Readman, Whitby. hc, W. Barnes, Thirsk. c, J. White (Partridge).

Brahma Pootra.—1, J. Walker, Haya Park, Knaresborough. 2, W. Severs, Kirby Fleetham, Bedale.

Hamburghs.—*Gold-spangled.*—1 and 2, J. Walker. *Silver-spangled.*—1, W. Mansfield, Thirsk. 2, W. Severs. c, J. Walker. *Gold-pencilled.*—1, W. Bearpark. 2, J. Walker. hc, R. Winterburn, Welbury c, J. Webster, Whitby. *Silver-pencilled.*—1, Rev. J. C. Wharton, Richmond, Yorkshire. 2, J. Walker. hc, T. White.

Any other Distinct Variety.—1, G. Carter, Bedale. 2, Rev. J. G. Milner, Bellerby Vicarage, Leyburn. c, J. Walker (Black Hamburghs).

Bantams (Any variety).—1, G. Gibson, Sigston. 2 and hc, G. Carter. c, J. Walker (Black); J. Watson.

Ducks.—*Rouen.*—1, Miss E. Graham, Boroughbridge. 2, T. C. Booth, Warlaby. hc, O. A. Young, Driffield. *Aylesbury.*—1, M. Harrison, Warter, Pocklington. 2, G. Robinson, Seaway, Thirsk. hc, O. A. Young, Driffield. c, W. Severs. *Any other Distinct Variety.*—1, J. Walker (Carolinas). 2, C. Rutherford, Thirsk.

Turkeys.—1, J. B. Braithwaite, Otterington House Farm. 2, O. A. Young.

Geblings.—1, O. A. Young. 2, T. C. Booth, Warlaby.

Pigeons.—*Carriers.*—1, W. Bearpark. *Pouters.*—1, J. & R. Kirby. *Jacobins.*—1, W. Peeks, Thirsk. *Tumblers.*—1, J. & R. Kirby. *Any other Distinct Variety.*—1, J. Watson. hc, W. Bearpark (Nuns). c, R. Wilson, Thirsk.

Rabbits.—*Any variety.*—1, J. T. Beckwith, Maunby, Thirsk.

Judge, Mr. G. Hutchinson, York.

PIGEONS GOING LIGHT.

In answer to several of your correspondents, I beg to re-assert that I am quite certain that every Pigeon with a diseased wing, treated in the manner I described in your Journal some time ago (see vol. xv., page 85), will perfectly recover. The experiment has been tried by several friends since, and, without exception, with perfect success.

And, now, a word about the evil called "going light," of which your correspondent, "X. Y. Z.'s," birds are dying. By repeated experiments I have discovered that it is the effect of two causes. The first is the over-loading of the gizzard by too rough gravel, and the second, impure water. The birds suffering from the first cause are continually troubled inwardly with a kind of creaking noise, caused by the friction of the gravel in the gizzard; and in two birds so affected I found, on examination, that the gizzard of the one contained eleven stones, and that of the other fourteen stones, about the size of peas, besides the usual necessary grit, and this in birds of the Owl breed. The Pigeons lingered for a month, as the stones prevented the natural passage of the food, and they died perfect skeletons. As regards the second cause of "going light," impure water renders the excrements, in colour and substance, like green paint, and, if neglected, the birds are reduced very rapidly to a dying state.

In the first case, very spare feeding with small grain, and two doses of castor oil daily, reduce the size of the gravel by natural friction, and the bird recovers; but it requires perseverance for nearly a month. In the second case a dose of charcoal powder daily, and some castor oil after it, most effectually restore the bird to health, but it must be fed very sparingly during the time; mix also some charcoal in the water. I consider feeding in troughs and giving pure water, the preventive in both cases.

The breeding season during the past summer has been very irregular in the midland counties. As far as my inquiries go, there has been a great amount of bad eggs at certain periods. On this subject I should like to know the opinions of, and results of observation by your readers.—A Foreigner.

Your correspondent, "X. Y. Z., answered at page 238, September 16th, is killing his Pigeons by Indian maize diet. The maize is too cold and watery, giving little nutriment in proportion to the bulk of excrement thrown off. All feeders of cattle and poultry ought to, or do, know this fact. The food for close-feathered and flying Pigeons is small grey peas, English (not large French) horse beans split, and wheat, mixed in equal proportions; their drink, clear well water, daily renewed; and a bathing-dish or shallow pan full of water on the roof outside is needful; the salt and gravel dish inside the cote. All old nests should be pulled away, and new straw given, and the floor of the cote scraped daily and sanded at feeding hours. Feed twice daily, say from 8 to 10 A.M., and from 4 to 6 P.M., as birds usually and naturally feed morning and evening. Syringe the cote with lime water occasionally, or Condy's disinfectant fluid and water from a garden rose-syringe.—Reader.

RABBITS AND THEIR JUDGES.

With regard to the remarks made by "One of Many Witnesses," about the Rabbits at Whitby Show; in the first place he states that "the Judges positively got through (I do not say judged), the twenty-one Rabbits in a trifle short of two minutes." Well, instead of there being twenty-one pens, there were only eleven. Fourteen pens were entered, and three, I think, were empty. As regards the time taken, I cannot say what it was,

but the matter was so very simple that there was but little time required. As regards not measuring the two Lop-eared Rabbits, there was no necessity, they were side by side, and there was no difficulty in seeing which was the better. Your correspondent does not say that the prize was not given to the best; but that we "certainly did not know, and as clearly did not care." Now, I think these remarks are quite uncalled for, unless he could show that we had erred in judging, which I am quite sure we did not. Had there been any difficulty, or had there been a large entry, of course we should have measured them, which I always do where there can be any doubt.—JAMES DIXON, *one of the Judges.*

TREATMENT OF RABBITS AT SHOWS.

As an exhibitor at the Middleton Show, I was pained to read the following lines in the notice of the Rabbits published in your Number of September 23rd.—"Might I suggest to the Committee a little more attention to the creature comforts of the specimens, remembering that some of them had travelled a great distance to the Show, and had to return, I suppose, the same distance?" The above words would not be written inconsiderately, and they mean in plain English that the Rabbits were insufficiently fed, or not fed at all. Cruel as it is, I fear this is no uncommon treatment, and I will give a case in point. The other day I dispatched six Rabbits to Whitby, and followed them the next day with some friends to see the Show. Reaching the grounds about eleven, our first observation was—that there was not a single grain or the least vestige of any kind of food in any one of the Rabbits' pens, from which we concluded that they could have had no breakfast. We were assured, however, that they were all fed very early that morning, and we could only reply that it must have been a very early or a very scanty meal, as every Rabbit had made a clean sweep of everything in the pen. Well, I hoped that a pennyworth of carrots might charitably be doled out to the twenty-one Rabbits before the day was over, but they were all packed off with empty stomachs, though the managers knew perfectly well that many of them had a long way to travel, and could not possibly reach home till sometime the next day. Mine arrived a little after ten, so that some twenty-six, twenty-eight, or perhaps thirty hours had passed since they tasted food. I was greatly struck with the fine bracing effect of the Whitby air, judging by their appetites.—GREENWOOD.

LIGURIAN QUEENS FROM AMERICA.

TOWARDS evening on the 26th of August last, a letter reached me bearing the New York post mark, which upon opening I found to run as follows:—

"New York, August 13th, 1869.

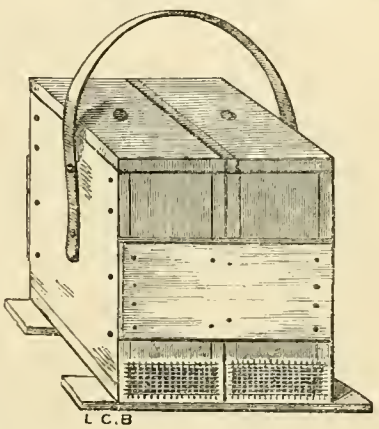
"Dear Sir,—I have requested a friend of mine to ship you two Italian queens to-morrow, bred in Mr. C——'s apiary, Colraine, Mass. . . . . I will send you Mr. C——'s surplus box in a few days, and write you more at length when less hurried.—Yours very truly, E. P.

"Let me know the condition in which they reach you.

"The bees referred to within have been delivered to J. I., ship steward of the steamer 'Erin,' which sails for Liverpool on to-morrow (14th August). The box containing the bees is addressed to you, and Mr. I. promised to take good care of it, and forward same by express on his arrival at Liverpool."

Now, this letter bothered me not a little. In the first place why should my friend, with whom I had before had the pleasure of corresponding on apiarian subjects, but from whom I had not heard for more than twelve months, wish to send me two Ligurian queens? and in the next place, what was I to do with them on so short a notice? Despatching Italian queens from America to Europe, seemed to me not a little like "sending coals to Newcastle," but after cudgelling my brains to no purpose, I failed in solving the problem, and I may add that it still remains a mystery, as I have not yet heard further from the New World. What to do with them on so short a notice was also a puzzle, for was it not most probable that the steamer "Erin" had conveyed my letter as well as the bees, and that the former would prove to have outstripped the latter merely by a few hours, or possibly only by a few minutes? Had I not also already applied for and obtained tickets for myself and family to accompany an excursion of the British Association to Dartmoor the next day, and must not I, therefore, forego this intended pleasure? On submitting this motion to the family conclave, however, I could find no seconder, but, on the contrary, was left in an ignominious minority of one, and an amendment was carried against me by acclamation, to the effect that I might be permitted to remove the queens from a couple of stocks the next morning, but only on condition that this preliminary operation should be performed so early as not in any way to interfere with the promised excursion, which must be carried out in its integrity, even if all the Italian queens in the New World were on their way to revisit their parent continent! I had, of course, no alternative but to obey, and accordingly placed the queens of one black and one hybrid stock in durance vile the first thing the next morning, and devoted the rest of the day to a picnic among the granite tors of Dartmoor, examining at the same time sundry Druidic circles, and admiring the magnificent scenery of that romantic neighbourhood.

On our return, I inquired anxiously after the expected royal visitors; but found that none had arrived, nor was it until some days afterwards—viz., on the 1st of September, eighteen days after their departure from New York, that a special messenger from the South-Western Railway Station reached my domicile soon after three o'clock in the afternoon, and placed in my hands a small package, of the external appearance of which the accompanying sketch will convey a tolerably



accurate idea. A cursory examination showed that it consisted of two small and narrow boxes (which I afterwards found measured on the inside 6 inches from front to back, by 3 inches wide, and 6¼ inches deep), made of five-eighth wood, and united together by a wide slat nailed on the back and front, and two narrower ones at the bottom, the latter of which projected about 1½ inch on either side, so as to form a wide base for the whole to stand upon. At what may perhaps be termed the front end, and close to the bottom, ventilation was afforded by an aperture in each box extending across its whole width, and three-eighths of an inch in depth; this was covered on the outside by wove wire of one-twelfth of an inch mesh, whilst a seven-eighth hole in each of the covers was secured by the same material, but of a still coarser mesh, tacked over them on the inside. Above the whole, and forming a very convenient handle, was arched a black leather strap rather more than an inch in width, and fastened by a couple of short screws on either side.

By breathing into the orifices on the top, I at once elicited so indignant a buzz from one of the boxes, as to satisfy me that the bulk of its inhabitants remained in full vigour after their three-thousand-miles trip; and accordingly, after separating the two, I turned my attention to the other box, from which I had failed to elicit any response whatever. Withdrawing the two screws which secured its cover, I carefully raised it, and as I had feared not a bee attempted to escape, nor, in point of fact, could I discern a single living one. What met my gaze was simply a wooden bar an inch broad, with sealed honeycomb attached to it, and which ran from front to back in the centre of the box, resting in a rabbet at each end, to which it was secured by screws. Withdrawing these, I raised the bar, and then found that it formed the top of a small frame 4½ inches wide by 4½ inches deep inside, and completely filled with sealed honeycomb. At the bottom of the box lay a black mass of dead bees completely choking the ventilator, but a few semi-torpid and exhausted bees nearly incapable of motion still clung to the sides of the comb, and among them, to my great joy, I discovered the queen. After having been warmed and fed, she speedily recovered, and escaping from my hand flew gaily to the window. It was but too evident, however, that she had had a very narrow escape. Out of what was originally a

company of about three hundred bees, not above a score survived, and these were so far gone that a delay of even a few hours must have proved fatal. She owed her life, indeed, to the standing instructions which I had long since given to the railway officials, never in such a case to hesitate on the score of expense about despatching a special messenger. In the present instance, to have waited for the usual parcel delivery in the evening would have deferred operations until the next day, and such a delay as this must inevitably have been fatal. As it was, I was enabled to present her forthwith to her intended subjects under the protection of a queen-cage, with every hope of a successful result.

The second box was, as may be anticipated, in every respect a *fac simile* of the first, but in this the evil effects of the prolonged confinement were far less apparent. The total number of deaths did not exceed fifty, and as nearly all the surviving bees were in full vigour, I united them with tolerable success to their future fellow-subjects, to whom I also introduced their intended new sovereign in a queen-cage.

The next day (2nd Sept.) both queens were released, and were cordially received. Six days afterwards, I found that they had commenced egg-laying very copiously considering the advanced season—one extending her operations to three, and the other to four combs, and this day (1st October) a few of their worker offspring are showing outside the hives.

It now only remains for me to run counter to the proverb, which recommends us "Never to look a gift horse in the mouth," by expressing an opinion on the merits of the two queens, which have been so kindly and so unexpectedly presented to me. I may say at once that both are fine queens, and that either of them will compare favourably with any that I have ever received from the Continent; but with regard to the larger of the two, the one which had so narrow an escape from a fatal termination of her journey, I will say yet more, for I think she is the handsomest queen I have ever seen. She is, indeed, truly of a golden yellow colour, and has nothing approaching black about her, since even the very extremity of her abdomen merely darkens off to a deep rich brown. The workers also seem quite worthy of their parentage, but of these little has as yet been seen by—A Devonshire Bee-keeper.

P.S.—I should add that I consider the mode in which the bees were packed and provisioned for so long a journey, a masterpiece of ingenious contrivance most skilfully carried out. The only improvement which I can suggest is, that the lower ventilators would have been better raised—say an inch from the bottom, so as not to become choked by the accumulation of dead bees.

BEES EXPORTING HONEY.

Perhaps one of the most singular cases ever recorded occurred this season in a gentleman's apiary near my place. The hive in question was one which was bought from a dealer in bees two years ago, and which never did any good. All the summer of 1868, the hive of bees no more than kept itself alive. I noticed that it appeared during the whole summer as if strange bees were troubling it, but then there was nothing to take, and as I saw no bees killed I thought it would hold out against any invasion; but it never had more than just as much as kept it alive until the end of the season, when a little sugar was administered, of which it took very little, and by the end of January its store was again exhausted. In the beginning of February what appeared to be regular robbing took place; but on the gardener examining the hive he found to his surprise, that instead of robbing, the bees of a hive standing close to it were actually carrying food to the stock now dead, and had already filled up a considerable space of comb with honey from their own hive. I think, therefore, there is no doubt that it was from this source that the bees had been enabled to keep themselves alive during the previous summer, and I deem it one of the most unprecedented occurrences that I ever met with.—A Lanarkshire Bee-keeper.

OUR LETTER BOX.

Plumage of Houdans (*H. B.*).—Houdans may be dark or light, so far as colour is concerned, but they must not be self-coloured; the preferable colour is a mixture of black and white, in about equal proportions. Dark birds get lighter as they grow older. The top-knots should be black and white; the body square, very like that of a Dorking; the legs speckled, the feet five-toed, but the legs should be short. A mixture of straw-coloured feathers is tolerable in the cock, but no bird should be kept that has a red one. Oats ground as you describe are very unprofitable, and only hunger will induce fowls to eat them; the husk should be ground as fine as the grain. Sussex is the only place we know where it is properly done. There is an excellent miller at Slaugham, near Crawley.

Characteristics of Brahma Pootras (*T. A. D.*).—The difference in points between Light and Dark Brahmas exists only in colour. The former should be quite white, with the exception of the tail, hackle, and flight feathers. High-class specimens should be pea-combed and free from vulture hocks. The feathers on the legs should be light. To prepare them for exhibition, they merely require generous food to gain weight and condition. Eschew potatoes, rice, or inferior corn. Give good ground oats slaked with milk, cooked meat chopped fine, and at times a little bread. You may wash their feathers with a sponge or flannel, warm water, and soap. Be careful not to wet the inner plumage; it is only the exposed part of the feather that is dirty. If you wipe softly, the dirt will come off. Then put the bird in an open basket partly filled with hay or soft straw, and place it in the sun or before the fire, according to the time of year. Your pullet lacks the material for forming shell. Supply the runs with bricklayers' rubbish. They will pick out the lime.

Breeding Sebright Bantams (*Mrs. E. W.*).—We are sorry that we can give but little encouragement or hope of success in breeding from a single-combed Sebright Bantam cock. We have bred them largely, and always fancied the single-combed (for such come in all yards) were the best marked and laced birds. We have been tempted sometimes to breed from such an one, but the result only proved that which we knew, yet hoped for an exception, that defects are more certainly transmitted than merits. Doubtless the parents of your bird were correct in every way, and it is probable the majority of his progeny would be equally so; but he has thrown back to some great grandfather or grandmother, and so surely as he has inherited, so would he transmit. We cannot understand why the chickens should die if the hens are kept under the rips, and the chickens are treated as we advise. We believe that the survivors will be as hearty as may be desired. We shall be glad to hear. Why not send us "Annals of my Poultry-yard?" you can well tell about what you like so well.

English and African Owls (*A Regular Subscriber*).—There is a similar difference between English and African Owl Pigeons as between common Tumblers and Shortfaces. The English Owls are large, fine, strong birds, and birds of flight; their colour usually powder blue or silver. The African Owls, on the contrary, are very diminutive, delicate-looking, and tender birds, and their fit place an aviary, which must be warm in winter; in short, they are exquisite little toys. Their colour is frequently a pure soft white. A true-bred pair should weigh less than a pound.

Middleton Poultry Show.—We are informed that the first prize for Black Hamburgh cockerels was not awarded to Messrs. Mason & Walker, but to Mr. Charles Sidgwick, Ryddlesden Hall, Keighley.

Rabbits at Whitby (*One who was Present*).—You are quite mistaken; the communication is from one who thoroughly understands the subject, and he was not an exhibitor. The Committee, no doubt, were anxious to do right.

Uniting Bees (*T. O. J.*).—A full description of the mode of uniting bees by fumigation will be found in "Taylor's Bee-keeper's Manual." As it occupies eight pages of that work, and may, moreover, be now regarded as an obsolete process, it would take up too much space to transfer it to our columns. It is best done in the evening after dark, but we should much prefer operating in the morning by driving, as advised in page 218.

Honey as Bee Food (*W. S. F.*).—If you add a little water to your otherwise useless dirty honey, and then scald it, you will render it perfectly available as bee food.

Dogs' Meat (*R. B. Bart*).—Our correspondent did not require the information you have obligingly sent. He has a large amount of animal offal to sell.

Food for a Cow (*Inquirer*).—When grass has been deficient, as it was during the greater part of the summer of 1868, we gave our cows hay in the yards night and morning, alternating with oil cake and brewers' grains, the grains as well as the bran mashes increasing the quantity of milk at the expense of quality, as is well known to all engaged in supplying milk for sale. Where the best quality of milk is wanted, hay, grass, and only linseed cake ought to be used; and be careful no hot-seeded cake finds its way amongst the latter. A small quantity of Swede turnips may be given further on; and in March, mangold wurtzel may scarcely be detected, but do not give it earlier than that. On no account give cabbage or white turnips; potatoes, however, may be supplied if you have them, but latterly they have been too dear for the purpose.

Cow-droppings on a Pasture Field (*Idem*).—To pick up these will deprive the field of the manure, which acts as some compensation for its supplying the herbage the cattle consume, and although the spots where the dung falls may appear to produce for a time coarse rank grass which the cow may seem to dislike, yet if you wait till autumn or winter you will find that most of these rough places disappear, and they form an excellent reserve for that period, but you might spread these droppings as soon as they are dry enough. To expect animals to graze evenly over a given space all at once as the scythe would make it, is out of the question, the finest pastures being seldom found so excepting where overstocked and, consequently, very bare.

Goat Keeping (*X.*).—A Goat would not annoy you by bleating; but at times she would be dry, and then you must resume the "sky blue." She must have a male companion occasionally; and there is some knack in milking.

POULTRY MARKET.—October 6.

Our markets are dull, and quotations to be depended upon are almost impossible. The close, hot weather renders immediate sales necessary, and they cause great variations in price. Many of the Pheasants that have come in were forward birds.

	s. d	s. d		s. d	s. d
Large Fowls	2 6	to 3 6	Partridges	1 4	to 1 6
Smaller do	2 0	2 6	Grouse	3 0	3 6
Chickens	1 9	2 0	Pigeons	0 9	0 10
Geese	6 0	8 0	Hares	3 0	3 6
Goslings	0 6	0 0	Rabbits	1 4	1 5
Ducks	2 0	2 6	Wild do	0 8	0 9

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 14—20, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
							m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
14	Th		59.9	40.8	50.3	20	24 af 6	6 af 5	17 af 3	morn.	9	14 0	287
15	F		58.8	40.5	49.7	21	25 6	6 5	44 3	35 af 0	10	14 13	288
16	S		58.8	40.2	49.5	17	27 6	4 5	8 4	39 1	11	14 26	289
17	Sun	21 Sunday after Trinity.	58.7	41.0	49.8	19	28 6	2 5	29 4	45 2	12	14 38	290
18	M		60.4	41.1	50.8	21	30 6	0 5	49 4	50 3	13	14 49	291
19	Tu	Royal Horticultural Society, Fruit, Floral,	59.4	39 8	49.6	22	31 6	58 4	7 5	54 4	14	15 0	292
20	W	[and General Meeting.	59.1	39.5	49.3	19	32 6	56 4	28 5	59 5	○	15 11	293

From observations taken near London during the last forty-two years, the average day temperature of the week is 59.3°; and its night temperature 40.4°. The greatest heat was 80°, on the 14th, 1861; and the lowest cold 24°, on the 15th, 1860. The greatest fall of rain was 1.04 inch.

THE GLADIOLUS.—No. 3.

IT was a great misfortune, that, just as the Gladiolus was coming into more general favour, and amateurs were taking up its culture, the Crystal Palace Autumn Show should have been discontinued, the only place now where it is shown in London being at one of the Tuesday Meetings of the Royal Horticultural Society. I tried to get up a special international show at the Palace. The Directors behaved with their usual liberality, but I did not think that the amount of support offered warranted me in taking their money, and risking an indifferent exhibition afterwards; for there was no certainty as to the French growers sending collections over, without which it could not be international.

The prizes offered at Kensington were very small, not sufficient to pay the travelling expenses of those who gained them, while the arrangements were bad, but upon a remonstrance being made, and the defects, unavoidable at the time, pointed out, we were promised better accommodation in future. However, it afforded an opportunity for a few of us who were interested in the flower, and who had fought for it through evil report and good report, to compare our experience, and suggest methods of overcoming the difficulties that beset its growth, and it is of these I would desire to say something now.

All growers of the Gladiolus know that it is subject to a mysterious disease, under the influence of which the bulbs become spotted, and then perish. What is the cause, and what the remedy for this? are then questions of great importance; and next to these arises another—Can any method of culture insure its non-appearance? I am sorry to say that very little of a really satisfactory nature was elicited. In my own experience it has happened that my entire collection perished; the method of culture had not been altered, the character of the ground was the same, yet three years ago I had hardly a Gladiolus left. All who met and talked together, had to tell more or less of similar losses, although not perhaps to the same extent. Thus, Mr. Kelway stated that last year he had 50,000 bulbs, and hardly one of them was affected, while this year disease was very prevalent. Mr. Sladden, of Ash, a very large amateur grower, has a considerable proportion of diseased bulbs. Messrs. Bunyard & Son, of Ashford, spoke of it as very discouraging, my own experience tending to the same result—that this year was much more injurious to them than last. Nothing could be better than the appearance of the grass as the bulbs speared above the ground, and until it was 5 or 6 inches high, and then many of the plants turned yellow. It would appear that, no matter what was the method of cultivation and the character of the soil, this occurred. I am therefore inclined to think we must look for the cause in the bulb itself. We have to recollect that the Gladiolnses are originally natives of South Africa, and although Natal be temperate, yet we cannot expect the productions of the country to be quite calculated to bear the vicissitudes of our climate; and then they have been so extensively bred in-and-in that a degree of delicacy of constitution has been thereby engendered. Now, a year like the present, when we had a forcing sun and mild weather in the early part of the season, succeeded by the long-continuance of cold north-easterly winds in May and June, must seriously have told on their well-being. Last year we had nothing of this kind, and as a rule I believe the growth was more healthy, but the great lack of rain must, I think, have told injuriously in some places—it did certainly with M. Souchet, whose bloom was the worst he had had for some years. A favourable season for the Gladiolus, I consider to be a moderately cool summer (not cold), with copious rains at intervals.

As to soil, I believe that M. Souchet's idea is that a good kitchen-garden soil is that best suited for them. I this year have adopted a plan, which I believe I have already mentioned, that recommended for the Persian Ranunculus—viz., to take out the soil to the depth of a foot or more, place a layer of cow dung about 5 or 6 inches thick, and then replace the soil. Let this be done in the autumn, and when the bulbs are planted they do not come in contact with any manure, but when the roots push they get down into the cool cow dung, and draw their nourishment from it, and I think flourish accordingly. With regard to taking up the bulbs, it is by no means necessary to wait until the grass becomes quite yellow, but when there is fear of early frost, or of the ground becoming very soddened, it is desirable to take them up. If, in doing so, any of the bulbs are found much spotted, my advice would be to let them dry a little, and then replant them. Selecting a convenient spot in the garden, prepare the ground, put in plenty of sand, and see what the result will be: for I am convinced that those much affected, when stored away, gradually become worse, until the corm withers up completely, and becomes quite black; it cannot be worse if planted, and my idea is it would be better.

And so ends my chat for this season on the Gladiolus, both at home and abroad. I have been more than ever charmed with the flower, and wish that I could awaken an interest in it in others at the same time. I have not hesitated to state that there are difficulties and discouragements connected with its growth, but they are not sufficient to outweigh the pleasure and delight it gives.—D., *Deal.*

PREVENTING GRUBS DESTROYING CABBAGE PLANTS.

There appears to be an exceptionally severe havoc made by grubs on the Cabbage plants this season, and the chances are that you kill the plant rather than the enemy by appliances, as noticed in your Journal of last week but one. The plants in the seed bed are comparatively unmolested, and the reason is that the grubs feed near the level of the soil's surface on anything that suits their taste. Evidently the woody substance of the plant level with the ground in the seed bed does not suit them; but as soon as you put the Cabbage-plant stems down

2 or 3 inches below the surface in planting them out, exposing the tender part—the collar—to a level with the surface, they are at once attacked and nipped off by the enemy.

If your readers avoid inserting the plants so deeply as is usually done the grubs will seldom interfere with them; and if a slight furrow be made, say the depth that the plants stand extra out of the ground, they will be little the worse for the shallow planting.—J. W.

[We hope some will try this simple plan, which seems reasonable.—Eds.]

MEMORIAL TO MR. JAMES VEITCH.

Mr. James Veitch has passed from amongst us; not so the fruits of his labours, they remain to give pleasure to all who have any taste for what is beautiful in nature. If it is true that the man who makes two blades of grass grow where one grew before is a benefactor to his race, what shall we say of our deceased friend? Shall we not be grateful? and should we not take some means to show it?—a monument over his grave, or a fund from which in all time coming an annual award could be given to anyone who made the most important addition to the vegetable productions of our land, either by new introductions, or hybridisation. Think and talk over this. There are plenty ready to aid any effort you "head centres" may set on foot. I have had letters about this subject, and I believe there is a wide feeling about it.—W. Thomson, *The Gardens, Dalkeith Park.*

[Heartily will we aid in promoting the acquirement of a fund to be invested in the names of trustees, and the interest to be awarded yearly in the form of a medal to the importer or raiser of new plants who may be considered most deserving of the honour. It should be named The Veitch Medal; and awarded as it would be to residents in various countries, it would be, like the plants Mr. Veitch has introduced, an annual, honourable, and enduring memorial of him in many lands.—Eds.]

GLOIRE DE DIJON AND MARÉCHAL NIEL ROSES.

In thinking and writing about these two fine varieties one is tempted to paraphrase a well-known passage, "Sure such a pair was never seen." For some weeks past I have had almost daily under my eye a square containing about a thousand plants of the first-named sort, full of flowers, and filling the air with their delicious perfume. They are budded close to the ground on Manetti stocks growing in a stiff clayey loam. Their vigorous growth is remarkable, as most of them are from 4 to 5 feet in height, each stout stem as thick as one's finger, forming a sort of pyramid of flowers issuing from the young side branches. It is curious to observe the contrast of this sort with other kinds of Tea Roses budded on the same kind of stock and in the same square, for they have to a certain extent not done well, many buds having failed; and those that have succeeded, even the vigorous Climbing Devoniensis, have made but a feeble growth comparatively. Why the Gloire de Dijon Rose should succeed so well on the Manetti stock is one of those small yet interesting mysteries so often found in practical horticulture, and which the *savans* seem not to be able to account for. Some hundreds of the Roses I have just described were budded in August with the Tea Rose Maréchal Niel. This kind of "double working," to use the gardener's phrase, *alias* double-budding, on the Gloire de Dijon Rose, was, I think, made public to the Rose world by my son a few years since, and has brought about, and will bring about, a complete revolution in the culture of Tea Roses, more particularly in that of the most glorious of all of them, Maréchal Niel. It is quite true that this sort will grow and bloom well when budded on the Dog Rose (Rosa canina), but it is not so lasting, and never is it so completely at home as when budded on the Gloire de Dijon. It even seems more than happy, and rejoices its cultivator by giving grand leaves, grand shoots, and more than grand flowers in abundance from end to end of the Tea Rose season, which may be reckoned from the end of February till the end of October—earlier and later at the will of the clever cultivator.

It is really a curious and most interesting physiological question, why the Gloire de Dijon Rose should succeed so perfectly when budded on the Manetti Rose, while other kinds of Tea Roses with habits nearly as robust should fail or make but feeble growth. There are many anomalies in practical horticulture which the closet physiologist in vain attempts to solve, and which never will be solved till we get a Darwin and confine him in a large nursery garden for some two or three score years.

Apropos of the change which soil often makes in vegetable growth. Some years ago, a friend living in the red-soil district of Devonshire planted some Pear trees grafted on the Louise Bonne Pear grafted on the Quince on my special recommendation that no kind of Pear could do better on that stock, and that grafted on the Pear stock it bore fruit of inferior quality. A few years after this period he wrote me that his Louise Bonne Pear trees on the Quince stock had cankered, and were in a diseased and dying state, while those which he happened to have on Pear stocks were doing well and bearing fine fruit. This fact has come to my mind on observing in your pages one or two correspondents complaining that Roses on the Manetti stock do not do well with them. Now, although Roses on that stock flourish here in all descriptions of soils, whether stiff clay, loam, or sand, it is quite possible they may fail in some few—very few—places; it may be in the cool moist climates of the north, or where there is an absence of chalk or lime in the soil: one cannot tell. At any rate, dwarf Roses are now so cheap that a trial can be made without much outlay. It is to me half amusing to read about such things after the stock has been fully tried for nearly forty years. I had at one time fierce battles with the Messrs. Paul and a host of others, but they have for many years rested on their oars, and have settled down to earnest cultivators of the Manetti stock. Your correspondents need not think that Rose-growers have taken to the Manetti stock as a measure of economy. Dwarf stocks of the Dog Rose are bought at 20*s.* per 1000, while those of the Manetti cost more than double that sum if they are good and well selected.

I ought here to mention a fact not generally known, that Moss Roses of all kinds, even the White Moss, make as healthy and more vigorous plants when budded on the Manetti as on their own roots; they should, as usual, be planted so as to cover the junction of the bud with the stock. It is the same with the varieties of Rosa gallica, now things that have passed away.

I feel that I ought to point out a great advantage which the use of the Manetti Rose stock gives. In old exhausted gardens, in which Roses on the Dog Rose barely exist, and in which manure seems to have lost its stimulating effect, the Manetti Rose will flourish, and even make a most vigorous growth if the soil is stirred to 2 feet in depth. I say this with confidence, because I have found it do so here in soils in which Roses on the Dog-Rose stock have been grown for forty years in rotation, till at last they have ceased to show any vigour, and merely exist. In such soils, treated as above, Roses on the Manetti stock give great pleasure to the amateur by their luxuriant growth, seeming to make an old Rose garden young.—T. Rivers.

GOLDEN CHAMPION GRAPE—INFLUENCE OF STOCK.

I notice in the Journal of September 23rd, Mr. Record's comments on, and experience of, Golden Champion Grape. My own experience has been somewhat different. My first acquaintance with this Vine was in the form of young plants at the nursery of the Messrs. Osborn, of Fulham, in May, 1868. They had one house full of young plants in various stages of growth, and as fine a lot they were as any one could desire to see. I set it down directly as a strong grower on its own roots, and ordered a plant, which I received about the 1st of August; it was shifted into a larger-sized pot, and inarched on a young plant of Black Hamburgh. It did not grow much that season, but this year it has run up a 10-feet rafter, and would have gone further if it had not been stopped. The young plant on its own roots made two very strong shoots in the spring, when one of them was inarched on a Hamburgh, and the other on a Trentham Black. It does not seem to take well on the Trentham, but we must wait another year until a correct opinion can be formed of it.

A correspondent in a contemporary has strong doubts of the stock having any influence on the scion in grafting the Potato; it has in the case of the Grape Vine. Mrs. Pince's Black Muscat grafted on Lady Downe's, is quite changed in appearance, and also in flavour; it does not look at all like the same variety on its own roots, and as far as one would judge from appearance at the present time, Golden Champion on Trentham

Black will be different from the same variety on Black Hamburgh. As to the appearance and quality of the fruit, I have seen it at exhibitions, at Dalkeith, in 1868, and also in the present year, but have only found one mark to note against it, and that is, when the fruit is quite ripe, some of the berries are affected with brown spots, which seem to be more than skin deep. This is accounted for by the exceedingly thin skin of the berries being easily injured by sulphur fumes, or water incautiously sprinkled on the hot water-pipes. In a young state it is said to be shy in showing fruit. I found the laterals where it was pinched back, showed bunches during the summer, so I have no doubt it will fruit well next year.—James Douglas.

AUTUMN CROCUSES.

Your correspondent, "M. H., *Acklam Hall*," deplores the loss, or the supposed loss, of many of our autumn-flowering Crocuses. Now, with regard to one of the most beautiful—viz., Crocus speciosus, I think that if he could visit the establishment of the Messrs. Osborn, at Fulham, he would find a splendid patch of this variety, which has been during the last week "glorious;" indeed, it seems to be naturalised there, for it is to be seen coming up even in the gravel walks.—F. J. S. H., *Fulham.*

A VISIT TO A LINCOLNSHIRE PARSONAGE.

The occasional communications contributed from time to time to the columns of the Journal by "C. C. E.," including the pertinent query "Who is to blame?" which would seem in some degree to have disturbed the equanimity of the horticultural world, may have—at least in a few isolated cases—given rise to another very natural query—Who, what, and where is the owner of the three familiar letters? An answer to this supposed query may not be altogether uninteresting at this juncture. Now, as to the "who," I have no warrant to add some other alphabeticals which to me seem to come very naturally after the "E.," so will content myself by saying that he is a member of a family of considerable standing and influence; that he is a clergyman, and—yea—a gardener; and that on a clear day the towers of Lincoln's glorious minster may be seen from his garden; and to make it a little clearer still, I may say that these towers may be seen for upwards of twenty miles round. So much for the who, what, and where.

Horticulture in its different aspects owes much to the resident clergy of this country. It would seem to be a study particularly congenial to educated minds. Alluring, comprehensive, interesting, and gratifying, what wonder, when such minds imbibe a foretaste of its genial influences, they should press on to the health-giving fountain with zeal and enthusiasm. Such energy, such enthusiasm, intelligently exercised will and must ensure success. And who cannot but recognise the ability, the willingness, nay, almost the anxiety, of those gentlemen to communicate through the qualified channels to others the recreation and enjoyment which they themselves have so freely partaken of? And, on the other hand, who stands forward more boldly, and breaks through the cordon of trade interest, and proclaims more loudly, not what pleases, but what disappoints them—a voice of warning which they feel called on to give for the benefit of their co-workers, and for the real promotion of horticultural progress? Into this army of clerical horticulturists is now fairly enrolled "C. C. E."—a worthy member of a worthy band, who, as time rolls on, will occasionally step into the front rank with a budget of information, sound, because matured and practical, the result of careful and systematic observation.

Up to the present time "C. C. E." has confined his gardening exercises to hardy fruit culture especially, and to vegetable culture incidentally. Having become fairly established in these branches, he is now desirous to emulate his compeers in another branch—Roses. To this end he has purchased additional land adjoining his garden. His garden—we will now look into it, or more particularly into a part of it, for it is in two divisions, the old and new. The latter is the plot most interesting. In size this portion may be two or three acres, and in form for practical purposes may be called square. A few years ago—five or six—this was an old ridge-and-furrow grass field of but a very ordinary character. What a change! "C. C. E." has commenced work in the spirit of the old proverbs, "What is worth doing at all is worth doing well," and "Well done twice done." He was not only studious to carry stagnant water out of the garden, but equally so to carry fresh water in. He has drainage in and out. Here Nature was his handmaid, and he was quick to turn her services to account. Situated on the western declivity of a range of hills, it occurred to him that simply holding up the watercourse a given height—it runs past his garden—would give him a reservoir of supply quite under command. "C. C. E." is not only fertile in conception but decisive in action. The thing was done. Supplementary reservoirs are formed in different parts of the garden; these are placed at the proper level, and are in pipe communication with the reservoir proper. By the simple use of a sluice and plugs, he has water in or out at will. From these reservoirs an engine will throw water in all directions. An excellent idea well carried out.

The water in subjection, his battle is now with the winds. The garden is intended solely as a fruit garden, and it is fully exposed to the full sweep of the north and east winds. To break their force, not a wall but an embankment is run along the entire north and east sides. This is not a mere hillock thrown up of any sort of material at hand, but is a work of some magnitude formed of splendid maiden soil. It might be appropriately designated a railway embankment, for, by a happy synchronism, at the time "C. C. E." was making his garden the Great Northern Railway Company were making a railway contiguous, and as the soil wanted taking out of the one and putting into the other, "C. C. E." was wide awake, and quickly on the spot stipulating for the top spit of the railway—an old pasture soil, a medium hazel loam. This is the soil of the embankment. It is quite filled with hardy shrubs, which, as may be supposed, have grown remarkably well. At regular intervals, especially along the eastern side which slopes to the walk, are planted choice and hardy kinds of Coniferæ. The block is already effectual, and is and will be highly ornamental. The shrubs on the south slope of the north embankment do not reach down to the walks, but a border is left containing six rows of pyramid Pears and Plums running parallel therewith.

The level or general soil of the garden largely consists of this imported loam. I am afraid to say how many hundred loads have been appropriated. The whole is trenched over and intermixed with well-rotted manure and crushed bones in no homœopathic doses. This is something like beginning to garden. The eastern boundary to the garden is a large hedge which thus separates it from the old garden and vicarage house. A hedge also forms the boundary to the south. The entrance to the garden is at the north-west corner. The garden is intersected by three main grass walks 5 feet in width. The turf of these walks is in the finest possible order, and as level as a river. They converge at the point of entrance on a small plateau of lawn. One walk branches off in a southerly direction and parallel with the eastern boundary fence, leaving, however, a border about 20 feet wide between the walk and fence. Another takes an easterly course, parallel and a short distance from the foot of the north embankment, and the third or main walk strikes straight across to the opposite or south-east corner. At the end of this long walk is a veritable earth-work on which are fixed the targets for rifle and archery practice, in both of which "C. C. E." is no mean adept. On each side of these walks runs a row of Strawberries, backed-up by rows of fruit trees, bush and pyramid, of Apples, Pears, and Plums, the dwarfest in the front, the tallest at the back, and the trees in each row of the same height and size.

There are, of course, other walks of ashes for the convenience of working operations. I have seen "C. C. E.'s" garden under different aspects, but to stand at the entrance in the middle of April and look down the straight long lines of blossom which radiate in all directions, is a sight worth going far to see.

The trees, as before remarked, are planted parallel with the walks, in rows of from three to six. They are planted thickly, so that half of them will be thinned out and planted in the angles which are thus formed by the peculiar arrangements of the walks. The garden will be eventually a fruit garden solely, but in the meantime these angles are devoted to the culture of vegetables, and such vegetables! they must not only be as fine, but finer than other people's to satisfy. Here I saw the veritable Supreme Pea, which grew such a length that it got quite out of the garden into the post office, and we all know the result. When I saw the Pea it was 3 feet high, and had not begun to blossom. I think we may fairly allow any Pea to grow a few inches above its orthodox height in such a garden as this, but it certainly should not have overgrown and smothered the row of Veitch's Perfection by its side. I have seen this Pea

in many gardens, and the opinion is prevalent that "C. C. E.'s" complaint is real; still all say it is a fine Pea, and all say, and this includes "C. C. E.," that they will grow it again. Such is my experience, which I may here parenthetically record. The vendors' mistake was in accepting the result of the hot early summer of 1868 as their sole guide.

Of the other, or old garden, it must suffice to say that it may be about an acre, and it contains numbers of fruit trees, a little lawn, choice shrubs, and an apiary, and, like every other part of the grounds, is in first-rate order. If I recollect rightly, the total number of trees in this interesting garden is close on 2000, and the varieties 250. All are healthy, and many of them bearing splendid crops of fruit. I saw a fine line of Lord Burghley Apples, some of them with a few fruit on, also Mr. Gladstone, not in a fruiting state. Some bushes of Cox's Orange Pippin were magnificent; and amongst Pears, Beurré Diel, Beurré Superfin, and Louise Bonne of Jersey, were very attractive.

"C. C. E." has a few vertical cordon Peach trees which he does not like, and a few diagonal cordon Pears which he does like. Bush and pyramidal trees are his forte; he knows, or shortly will know, all about these. Pruning in different ways tried, and effects carefully noted, manures the same, time of blooming and every peculiarity observed for future guidance, he will thus acquire a mass of information of much value; and not alone for himself, but for all who care to know, I am sure he will care to tell his experience. Of flowers, there is nothing remarkable except a plant of Pampas Grass with upwards of sixty noble spikes of inflorescence.

Before taking leave of the garden I must not omit to notice how extremely creditable the whole place is to "C. C. E.'s" active man Bentley. Bentley thinks much of his garden and much of his master, and herein is the secret of success.

I will just for one moment step out of the garden into the workshop. Here order prevails—a splendid lathe, tools of all kinds, and all used, for in this line "C. C. E." is justly celebrated. He must verily inherit the spirit of Lord Brougham when he exclaimed, "If I had been born a shoeblack I should not have been satisfied until I was the best shoeblack in England." Here, too, were arranged volumes of the Journal, and everything at hand for a man of business. In the village are to be seen fine new schools just erected, the result of his energy. Altogether I am much pleased with this place, and with nothing more than the kind and hospitable manner with which I, a plain working gardener, am entertained on my occasional visits, except it was the advantage I recently had of hearing him from his place in the sacred edifice adjoining—in this as in every undertaking earnest—deliver a powerful extemporaneous discourse from a text always applicable to all persons, under all circumstances, at all times, and here it is: "What I say unto you I say unto all—Watch!"—J. W.

ENGLISH-SAVED STOCK SEED.

Through the kindness of Mr. Dean, of Ealing, I have been enabled to give the above a good trial along with other kinds of Stocks, including the East Lothian. They were sown about the middle of April, and treated in every respect the same as imported seed, but the difference of the plants in vigour of growth and continuance of flowering was remarkable—so much so, that some of the individual spikes that were exhibited at a local flower show were pronounced by the judges to have been those of the Large-flowered Brompton. One kind that attracted much attention was of a canary colour, the plant producing four or five large trusses of very lasting bloom; another was prettily mottled and shaded with light blue, being undoubtedly quite new in colour. The habit of the plant was the same as in the preceding kind. These two partake of the character of the large-flowering German Ten-week, but are very much superior.

The Pyramidal Large-flowering scarlet, purple, and white Stocks were very fine, some of the flowers being as large as those of the Brompton, but coming into bloom at the same time as the varieties previously referred to, and should the weather continue mild they will flower until Christmas. A white variety which was a few weeks later in blooming is now very fine, being somewhat like the White East Lothian, but of more compact growth, and it will be fine to succeed that variety.

I will add that all the kinds produced a good proportion of double flowers, but not quite cent. per cent., as stated in your number of August 19th respecting the East Lothian Stocks, though unquestionably they are valuable introductions, and will be very generally cultivated. They are still very fine with me, producing about 80 per cent. of double flowers, and of this proportion I think no person could reasonably complain.—E. Welsh, *Palace Gardens, Armagh.*

WELLINGTONIA GIGANTEA.

[A correspondent, in reply to Mr. Robson's inquiry in page 168, respecting the Wellingtonia, has written to us under the signature of "The Master Gardener," that he has several trees of this species measuring respectively 20, 23, 24, 27, 29, and 32 feet in height, the head of the last-named tree covering a space 26 feet in diameter. The whole of them are in perfect health, without any of the appearances of premature decay, as described by Mr. Robson. "The Master Gardener" also justly asks if a tree 32 feet high and 26 in diameter is not one of unusual size? He mentions, however, having seen at other places much smaller trees in an unhealthy condition, which he attributes to the dryness of the season. He likewise states he has Cryptomeria Lobbii 26 feet high, and justly enough regards it as a very fine tree, although it has latterly formed four leaders, which he thinks check its growth, and he would like to know what to do with them. He also asks if slightly digging with a fork over the roots of Conifers is likely to do harm, as he has hundreds of fine specimens, and the appearance of the beds they are growing in is of much consequence. We forwarded our correspondent's letter to Mr. Robson, and append his reply, hoping also to hear again from "The Master Gardener" on the Wellingtonia and other Conifers, of which he has such fine specimens.—Eds.]

The specimen of Wellingtonia 32 feet high, and 26 feet in diameter of head, is certainly one of the finest, if not the very finest, in the country; and I am glad that neither it nor the other large ones mentioned show any sign of debility, which I had heard of elsewhere, and in one case seen here. I therefore hope the cases where a premature decay has set in may be traced to some local cause, for which there may be a remedy. I trust, nevertheless, that your correspondent will describe more fully the character of the soil and situation his trees are growing in, and give every needful information, as it is quite possible many of us may have planted the Wellingtonia in unsuitable situations; and although it may flourish for a time, yet in the course of a few years it falls a victim to some latent disease, which, like consumption, carries off the subject after he has enjoyed a few years of more robust health than that often accorded to individuals destined for a more prolonged existence. Whether this be so or not remains to be proved by those who planted the tree soon after its introduction to this country, or, in fact, who have the largest specimens. In this county (Kent), Messrs. Hollingworth, of Turkey Mills, near Maidstone, have in their grounds some very fine trees, about 28 feet high, and I believe in the garden of the High Sheriff, Mr. Ridgway, at Fairlawn, there is a specimen 30 feet high, which a few years ago I knew to be a remarkably fine tree, one similar to the last being in the garden at Redleaf, where, as well as at Fairlawn, are some excellent examples of ornamental trees and shrubs. It would be a great boon to intending planters if more particulars about this remarkable tree were published.

The Cryptomeria Lobbii mentioned by "The Master Gardener," is also a fine plant; but the difference between it and C. japonica is so very slight, if any, that the tree is possibly one of the latter species which was introduced some years before that named after the enterprising traveller Lobb. There are many fine trees of C. japonica in the country. One that was growing in the grounds here (Linton Park) was upwards of 41 feet high, when it was broken asunder by a high wind in February, 1867; it was as straight as an arrow, and although close-growing, its spread was hardly more than 8 feet in diameter anywhere, being a perfect spire. The plants of C. Lobbii here seem so determined to produce seed vessels, that their growth is certainly impeded.

I would advise that from the tree with four leaders all of these should be removed but one, but do not cut them back too closely to the stem or origin; and if not cut immediately, do not cut them at all, but bend them back and tie them in to the stem they came from; I mean the tips of the leaders. It is better to do this than cut them at any season except August, as most Conifers bleed so much, and tying-back effectually stops competition with the proper leader.

The less the ground is meddled with around Conifers the better, and this applies especially to the Wellingtonia, which produces roots close to the surface, as do many of the Spruce and Silver Fir class. Perhaps Cupressus roots go deeper, C. Lambertiana being often tap-rooted, and if so, it is the better for the tree, which is then supported against the wind, and it may suffer less than others, but I recommend as little stirring of the soil as possible, for I have seen more than one death from that cause.

Since writing the above, the article of Mr. Mayo, from Shalstone, has appeared in this Journal (page 221), stating that he has a fine tree 20 feet high, of corresponding spread of branches, and perfectly healthy and vigorous. I can only repeat what I have said before, that I am very glad of this, and hope the number of those who have to report a contrary state of things may be few, and such as not to affect the general good character of the tree. Nevertheless, if there be any such, it is quite as important (if not more so) to hear of their disasters as to be told of others' successes. As there is always more pleasure in reporting a favourable state of things than the contrary, those who have been unfortunate are entitled to the greater share of credit when they boldly state their case. They afford quite as much, if not more, useful information to the public at large by doing so. The specimens alluded to as being 20 feet high may, perhaps, not have yet reached the point at which disease sets in. We have a fine tree here about that height, with clusters of cones upon it, while others much higher do not show any signs of bearing. For their not doing so I am not sorry, as it must impair their growth.

The specimen of Cupressus Lambertiana, 39 feet high, and with a spread of 30 feet in diameter, mentioned by Mr. Mayo, is certainly a fine tree, and exceeds one of the same kind here, although in point of height the two are about the same; but the tree here suffered severely from the frost of January, 1867. Before that time it was so densely clothed with foliage, that in walking round the eye could not detect, without the hand holding some of the branches, a twig thicker than a pencil; it has partly recovered, but is far from being so fine-looking a tree as it was before that time. A Pinus insignis near it also suffered in a similar manner, but has since recovered, while another tree of the same species, about 60 feet high, a little way off, escaped unhurt; and an Araucaria brasiliensis, not often met with out of doors, also escaped that winter with no more injury than is experienced in other years. It is not, however, an out-door tree, and is far from being happy-looking.

In conclusion, I again invite reports on the well or ill-doing of the Wellingtonia from all quarters, especially where the trees have been planted ten years or more.—J. Robson.

FORCING PLANTS.—No. 2.

But few having houses specially set apart for forcing, and the plants to be forced having to be grown and flowered along with other plants, it will be necessary to make a few observations on this subject. A cool greenhouse with a night temperature not exceeding 40°, is a good place for the majority of hardy shrubs and plants, for the first three weeks or month of their being taken under glass for forcing. For at least a fortnight they ought not to have a higher temperature, but be slowly excited into growth, and then they may safely be placed in greater heat—say in a warm greenhouse or cool stove, giving them when first introduced the coolest part of the house, and a position well exposed to light and air, and removing them to a warmer part as they advance in growth. They ought never to have a temperature exceeding 55° at night, and for most plants 50° at night will be sufficient to bloom them strongly and well.

Persons having vineries where forcing is commenced in January, and where other houses are started at monthly intervals, will not have much difficulty in forcing plants. All hardy shrubs or plants succeed with the treatment given Vines in forcing. The heat is low to begin with, abundance of air and a moist atmosphere are afforded, and the temperature being progressive, is well suited to them, as they, for the most part, flower before the temperature is so high as to draw them up, or the shade of the Vines becomes so great as to deprive them of the light needful to become strong, well-flowered plants. The plants should have positions near the glass, and if the houses are lean-to's, or the light stronger from one point than another, the plants should be frequently turned round to keep them from becoming one-sided.

Peach houses, too, are excellent for forcing hardy plants and shrubs. If these be placed in the house when forcing is commenced, they will flower even better than those in a vinery, from the greater ventilation and lower temperature of the Peach house.

Plants for forcing should be of the best possible description—stiff, strong, compact, well-grown plants, with the growth of the previous year well matured, well set with bloom-buds, or if herbaceous plants having the crowns or buds plump and round, not narrow and pointed; and they ought to be established in pots at least one year, or so recently transplanted that they may early in autumn, or at the end of summer, be moved with good balls, and potted without depriving them of more fibres than can well be avoided. Evergreens are best potted in September, if the growths are mature and the buds fully developed. They should be well attended to with water, and the pots plunged in coal ashes in a warm, sheltered situation. Deciduous shrubs ought not to be removed until the leaves turn yellow and begin to fall; then the sooner they are potted the better, placing them in a sunny situation, and giving a good watering to settle the soil about the roots. Both deciduous and evergreen shrubs will thus be better prepared for growth and blooming than if taken up, potted, and placed at once in the forcing house.

In November, before severe weather, they ought to be taken under glass, especially the evergreens, placing them in a cool, airy, and dry house, such as an orchard house, or unheated vinery. There the evergreens should remain, with no more water than is sufficient to keep the soil moist and the foliage fresh, whilst the deciduous shrubs may be kept dry rather than wet, always taking care not to allow the wood to shrivel from dryness, or the buds to shrink. In severe weather the pots should have some dry hay or litter placed round them. From this house they could be drafted into the forcing house at intervals, not moving them, however, when frozen, for the less they are handled at such times the better, and if they must be moved, let them be slowly thawed, by placing them in the next coolest place to that from which they were taken.

If there are not cool houses, or cold pits, which answer nearly as well as houses, much may be done by placing the plants under the shelter of a wall, plunging the pots in ashes of spent tan, and in severe weather protecting them with mats or other materials; and though such means are but a poor substitute for glass, it is far better than allowing in severe weather the roots to be frozen, and the tops to remain unprotected from snow and frost. It was formerly thought advisable to expose Vines to frost in winter, but the practice is now obsolete, and so it will be in a short time with forcing plants. Severe weather does no good to plants intended for forcing, and though growth may be rapid after the exposure, the sudden transition is not generally followed by a continued vigour of growth to the flowering period.

It is almost superfluous to state that the earlier forcing is commenced the worse the plants will flower, and the slower they are forwarded, particularly in the early stages of the forcing, the greater will be the chance of success. The plants ought to be placed in a cool house for a fortnight, then in a house with a temperature of from 40° to 45° from fire heat, and then in one of from 45° to 50°; and if they are not then in flower, or will not be within another week or fortnight, they may be placed in a night temperature of 55°, which is sufficient forcing for every kind of hardy plant. A fortnight should be allowed the plants in each of the temperatures mentioned. In the cool house they should be kept rather dry, but when placed where fire heat is applied, they should be lightly sprinkled overhead with water twice a-day, morning and evening, and the floors, walls, and other surfaces sprinkled with water twice or thrice a-day, in order to secure a moist atmosphere. The water should be of the same temperature as the house, and sprinkling the plants should be continued until the flower buds show colour and are about half developed, but the floors, &c., should be sprinkled until the plants are in flower, when they ought to be moved to a cooler and drier house, as condensed moisture is apt to discolour them. A house with a temperature of from 45° to 50° at night is most suitable.

Air should be given freely, but not so as to suddenly lower the temperature, for the leaves being grown in heat are more susceptible of cold than when they are formed in the open air. The more air the plants receive, the less liable they will be to become drawn up, and a little air at night improves their health and vigour, as well as the colour of the foliage. In frosty weather little air will be needed, whilst in mild and dull weather it should be freely given, as the plants then grow more

rapidly, and without air are apt to make weak foliage. There should be a change of air at least once a-day. In dull weather less moisture will be required than when the weather is bright, and the ventilation ought at all times to be so regulated that it will not suddenly cool or dry the atmosphere.

The plants when forcing is commenced will need but little water. It will be enough to keep the soil moist until they are growing freely; the amount should then be increased with the growth, but never give water until the soil in the pots become dry, yet not so much so as to cause the leaves to flag. Do not saturate the soil by too frequent waterings, and if it become very wet see that the drainage is efficient, and the roots in a healthy state, for without good roots it is not possible to have vigorous growth and bloom. Keep the plants well supplied with water until the blooming is past.

After flowering the plants should be returned to a house having a temperature not more than 5° lower than that in which they have been flowered, and be there continued for a fortnight; then place them in a cooler house or pit, by degrees harden them off, and when danger from frost is over they may be plunged in ashes in an open situation, attending to them with water in dry weather. Some plants after forcing are hardly worth keeping until another year, but others flower well the second year, and others again are best planted out in the borders after they have been hardened-off.

All plants require to be prepared in the previous year for forcing; but this is rarely practised in private gardens, as plants ready for forcing can be purchased so cheaply. Those best established in pots can be obtained in that way, whilst those which can be lifted and potted in autumn, are grown in such quantities that there are always to be had compact plants with good foliage, well set with buds, and which can be taken up with balls of soil. These can be purchased more cheaply of nurserymen than they can be grown by persons only requiring a few. All plants are not suitable for forcing, and to grow them for the purpose, care must be taken of them previously. They should be well grown, healthy, well set with flower buds, and if they are not so, and well rooted likewise, discard them.—G. Abbey.

BICTON.

When visiting Bicton, the seat of Lady Rolle, a short time ago, I saw an account in your Journal of the death of Mr. Veitch, and I could not help being struck with the idea that it was worthy of record, that there was to be seen there that which would be a living monument to his memory for ages to come, in the noble Araucaria avenue which, as far as I am aware, is not equalled in Britain. It contains fifty specimens most judiciously arranged. I was informed that it was planted by Mr. Veitch about thirty years ago, and was under his care for some years when in its infancy. He also had the care of the noble arboretum at the same period, but I regret to observe that a large number of the original specimens are wanting, to the amount, I was informed, of about nine hundred. Lady Rolle, who is a most liberal patron of horticulture, and is ever ready to grant whatever is required, has expressed a wish that the blanks should be filled up. I have, therefore, no doubt but that the plantations will soon be put in a more perfect state.

I could not help observing many relics of the talent and good taste of the late Mr. Glendinning. He designed and planted the arboretum; he also formed the beautiful lake, in the design of which he was most ably assisted by his noble patron. When I saw it there were hundreds of water fowl upon its surface and banks. Although entirely artificial, I was informed that it was in some places 40 feet deep. It forms a most beautiful object from the mansion, and can be seen from many parts of the extensive park, being a grand feature in the landscape.—A. B., *Cudsden, Bucks.*

DESTROYING WORMS.

In answer to your correspondents "J. A." and others, in your number of the 7th inst., you recommend lime water or ammoniacal liquor diluted with six times its volume of water, for the destruction of worms on lawns and in pots, both of which are undoubtedly good; but the lime water is not so effectual as could be wished, and aqueous ammonia cannot be applied sufficiently strong to kill without injuring vegetation, as you justly remark. Ammonia has also the additional drawback of being very volatile, and, therefore, quickly evaporates. A far more effectual agent, and one not only free from the above objections, but possessing the strong recommendation of being acceptable to most plants, will be found in a solution of 4 ozs. of common washing soda, dissolved in one gallon of water, the solution to be applied in the evening with the rose or spout, according as it may be desired to operate upon beds, lawns, or pots. The strength of the solution may be varied from this standard to suit the condition of the plant or plants, according to the tenderness, maturity, or hardiness of growth. A little experimental practice on the part of the operator will soon lead to just conclusions on this and other points. Soda is one of our strongest corrosive poisons, and instantly affects all moist-skinned creatures, such as worms, snails, &c. A few applications will in most cases prove effectual at a very trifling cost.—H. G.

OUR FLOWER SHOWS.

"There is no mistake about the matter, flower shows are becoming great events in our day, something looked forward to in every town and village; yet I would rather, if I dare speak the truth, my man had nothing to do with them. I knew I shall be considered a croaking fellow, far behind this enlightened age."

"So you are in this respect, Harry," replied his brother, "and why, I cannot understand, unless you have been for years an unsuccessful exhibitor."

"No, I have never exhibited; my man has done so by sufferance, it is his hobby; the laurels are all his own when he wins them. I am not sure they are worth the cost—think of the labour and anxiety, the hopes and fears, the strange methods resorted to, to gain the required form and bloom. Ah, Frank, many a gardener looks at his poor thin ducks until in the fever of the excitement up to which he has worked himself, he fancies them swans; and then when the proclamation goes forth they are but ducks, what a downfall, what disappointment and heartache; and worse, unbelief in the fairness of the award!"

"And he is not worth much if he does not go home determined to work and win another day. You speak like an outsider, once within the magic circle your feelings would change, Harry."

"It should be remembered, Frank, the outsiders far outnumber those within the circle. I am not sure my feelings would change under any circumstances, not even if I became, what appears to me an impossibility, one of your favoured few. Our flower shows are something like poultry shows, success runs ever in a groove; it is only by some extraneous effort the old is pushed aside to let in a new element. Then, too, to an idle looker-on, prize-giving appears such an anomaly; bulk often wins the day, the largest bundle of sticks carrying off the first prize. Some monster plant with an unreadable name is sure to have the honour of bearing the white card, and though everybody admires it, or pretends to do so, yet few would have it at a gift. This successful giant travels about from town to town, and from show to show, as long as the blooms remain, then goes home a pitiful object, with its plantation of supports and immeasurable yards of string exposed to view, to be hidden away in a dark corner, nine times out of ten to drop off—a natural result if you will push all energies in one direction, until, however brilliant the success, the chance of life is small. I likewise do not admire the necessary appearance of the plants intended to compete for prizes; Nature is so cut in, rounded off, and tied out, that all perception of what the individual plant should be is lost. Art not Nature, the gardener's skill, not Nature's aided growth, is exhibited, for which I suppose committees hold up their golden prizes. Behind my time, or before my time, I must confess, Frank, I do not admire them, would not have them at a gift, and I ever come home with a thankful feeling I have not to find house-room for them. Why should all life, and grace, and charm, be cut away from them, not even a stray leaf allowed to make light and shade? That Bramble bush clambering over the old stone wall, and spreading forth its leaves and flowers, and wild fruit, has more grace and beauty, and gives more pleasure than the beautiful Stephanotis when dressed out, rounded off, I should rather say, into its tub-like shape."

"You do not know the hours of labour bestowed upon these specimen plants to bring them into a blooming condition fit for exhibiting."

"No, indeed, I do not, Frank—they may be even more than I imagine; but surely that is no reason the plants should be twisted and twined, and tied and tortured, as if roundness were the only form of beauty for which a prize could be given. Why, our forefathers had more variety of shape in clipping their ever-

greens. There is something positively distasteful in the sameness, the uniformity, the repetition one meets with at flower shows. Some plants come over and over again, looking just the same; it needs only a slight stretch of fancy to think the Pelargoniums are the very same plants that stood in the same place the year before, perhaps a little fuller in bloom, or requiring a few more supports, a greater care in management lest the shaky petals should fall away, and the leggy branches be too much revealed. We hear of new varieties, but they come not to our provincial shows, not even as cut blooms, which would be most interesting to many, who have neither money nor time to run up to the great shows of the metropolis. I think Orchids, with their dried bulbs and stems, and ungainly shoots, and speaking flowers, ever resist the gardener's taming process, growing after their own fashion, and retaining even under the highest cultivation, a certain rare wild beauty, which never loses its attraction."

"We could not get up a great show of Orchids alone. I know of old, they drew you against your will to the very shows you abuse."

"Certainly not, Frank," replied his brother, "very undesirable if you could, for it would not pay; it takes a high stage of culture to find real pleasure in gazing upon Orchids, more than the great bulk of visitors to flower shows possess. But you could offer prizes for smaller specimen plants grown in a more natural form, with fewer, nay without any, green-painted sticks —an outrage, as they undoubtedly are, upon good taste and skilled growth, for the best of all work is that where the worker is lost. When hundreds, nay thousands, might come in to compete, poor curates and working doctors like myself have a chance —possessors of small houses and unheated pits, in which the prize-taking monsters would be out of all proportion; and then the poor man-of-all-work, who must tend his mare, and milk his cow, and weed his garden, might possibly after all realise his ambitious hopes and become a prize-taker, without having the pleasant cup of success dashed aside on his return by the sight of neglected work."

"I suppose, Harry, you would make it so easy to win a prize, that everybody could receive one?"

"I would make it a possibility, which at present it is not. I would bring it in many of its arrangements within the reach of busy, hard-working, practical men. There are many such gardeners about small villa residences in the neighbourhood of large towns, possessed of a considerable amount of knowledge and skill, and often fired with a laudable desire to try their luck in prize-taking."

"I do not wonder, Harry, it is the bit of fire that keeps them alive, that breaks the dull monotony of their existence."

"To the danger of striking out a less pleasant kind of fire. All very well if a man has the time and the means, if the thing is not so far beyond his reach but that he may fairly hope to win it; but if a man's hands are full he should not try to grasp more, lest he lose the needful substance reaching out for the pleasant shadow. To me there appears an absurdity in the little dark lean-to, like my own across the garden, competing with a large span-roof all light and air; that is why I had rather my man had nothing to do with flower shows, for all his labour can but end in heartache and disappointment. When committees offer prizes for plants of one or two years' growth, then my creaking may possibly blossom into an enthusiasm even surpassing my gardener's; but I cannot give up my house to large show plants with their detrimental shade over younger and smaller, and yet in my eyes more beautiful plants."

"Well, after all, Harry, I am afraid you would make it too easy to win a prize; you bring down the standard rather than lift up to it."

"I would bring the standard within the reach of the multitude, and so increase the interest, and most certainly, Frank, the returns. It will come to it by-and-by. In flower shows, as in everything, we weary of the old, and look out eagerly for the new."—Maud.

LADY-BIRDS.

I have been greatly troubled with aphis this season, particularly on Melons and Cucumbers. I fumigated to such an extent that the plants succumbed before the fly did, and I considered my case hopeless, and determined to try no more. Having heard of the lady-birds feeding on aphides, and noticing one of them on a Cucumber frame, I took a leaf with some aphides on it, placed the lady-bird in the midst of them, and watched the result. No sooner had the little creature recovered its equilibrium than it set to work and devoured the insects as fast as it could swallow them, and several not being within reach of its mouth, they were hooked towards it with its "fore paw," in the same manner that a cat will do with a mouse. "Here, then," said I, "is an end to all my troubles; no more trouble with tobacco now."

I instantly set to work, and with the assistance of one of my men in a very short time collected upwards of a hundred lady-birds; these were quickly transferred to a three-light Cucumber frame, and it was astonishing to see the rapidity with which they dispersed themselves among the leaves in search of their favourite food. In a few days not an aphis was to be seen, and when the frame was opened during the day, I found occasionally some of the lady-birds making their exit, no doubt to find a fresh field for operation. The plants soon recovered their health, and are now succeeding well. A few lady-birds still remain, and seem to be very happy in their new quarters.

I tried the same experiment in a small Cucumber house, but not exactly with the same results; the lady-birds disappeared as fast as I put them in, and I was not long in discovering that the depredator was a fine large toad I had kept there for another purpose. I need scarcely add that he was soon removed to another department, and, perhaps, at a future time I may call upon him.—G. S.

THE CHEROKEE ROSE.

The legend of the Cherokee Rose is as pretty as the flower itself. An Indian chief, of the Seminole tribe, taken prisoner of war by his enemies, the Cherokees, and doomed to torture, fell so seriously ill that it became necessary to wait for his restoration to health before committing him to the fire. And as he lay prostrated by disease in the cabin of the Cherokee warrior, the daughter of the latter, a young, dark-faced maid, was his nurse. She fell in love with the young chieftain, and, wishing to save his life, urged him to escape; but he would not do so unless she would flee with him. She consented. Yet before they had gone far, impelled by soft regret at leaving her home, she asked leave of her lover to return, for the purpose of bearing away some memento of it. So, retracing her footsteps, she broke a sprig of the white Rose which was climbing up the poles of her father's tent, and, preserving it during her flight through the wilderness, planted it by the door of her new home among the Seminoles. And from that day this beautiful flower has always been known, between the capes of Florida and throughout the Southern States, by the name of the Cherokee Rose.

It is of rapid growth, and soon forms a hedge as dense as it is beautiful. It runs along the roadsides likewise, converting roads and fences into thick banks of leaves and flowers. It climbs to the tops of high trees, hanging its festoons among the branches, or letting them droop gracefully to the ground. In fact, this showy wild flower, with its five white petals and centre of gold, imbedded as it is in so many brightly-shining leaves of green, gives almost a bridal aspect to the spring landscape, and well-nigh makes all the citizens' cottages look like homes of the poets.—(*American Horticulturist.*)

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

Drosophyllum lusitanicum (Portuguese Yellow Sundew). *Nat. ord.*, Droseraceæ. *Linn.*, Octandria Pentagynia.—A native of Portugal, Spain, and Mauritania. Flowers yellow.—(*Bot. Mag.*, *t.* 5796.)

Mackaya bella (Natal Mackaya). *Nat. ord.*, Acanthaceæ. *Linn.*, Diandria Monogynia.—Native of the bed of the Tongat River, Natal. A beautiful shrub with delicate, pendant, white flowers veined with crimson.—(*Ibid.*, *t.* 5797.)

Aerides japonicum (Japanese Aërides). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Japan. Flowers white, blotched with purple.—(*Ibid.*, *t.* 5798.)

Nertera depressa (Depressed Nertera). *Nat. ord.*, Rubiaceæ. *Linn.*, Tetrandria Monogynia.—Dr. Hooker says—"Though when in flower one of the most insignificant of flowering plants, when covered with its translucent orange fruit, which it keeps for a long period, this is one of the most charming of rockwork plants. It is a native of the bleak cold Antarctic mountains throughout the southern hemisphere, where I have gathered it in Lord Auckland and Campbell Islands, the Falkland Islands, and Cape Horn; it also inhabits

Tristan d'Acunha, the mountains of New Zealand and Tasmania, and follows the Andes from Cape Horn to New Grenada.,—(*Ibid.*, *t.* 5799.)

Bignonia purpurea (Purple-flowered Bignonia). *Nat. ord.*, Bignoniaceæ. *Linn.*, Didynamia Angiospermia.—A magnificent stove climber, native of South America. Flowers lilac-striped with darker lilac.—(*Ibid.*, *t.* 5800.)

Cotyledon Salzmanni (Salzmann's Cotyledon). *Nat. ord.*, Crassulaceæ. *Linn.*, Decandria Pentagynia.—Native of Tangiers. A most beautiful rock plant. "A mass of brilliant golden blossoms relieved by red brown spots." Foliage brilliant green with crimson tips.—(*Ibid.*, *t.* 5801.)

Dianthus neglectus and Alpinus—"Dianthus neglectus is one of the loveliest of the Dianthus family. It combines the dwarf sturdy character and fine form of the handsome but rather fastidious Alpine Pink, with the vigorous constitution of the common or the Maiden Pink, and forms tufts which resemble short wiry grass. The leaves are slightly glaucous, concave, pointed, and, except in vigorous specimens, from half an inch to an inch long, the lower ones on the stems being somewhat longer. The flower-stems rise from 1 to 4 inches high, according to the position and soil in which the plants are grown, are freely produced, and each bears a solitary flower, or rarely two, about an inch, or, in vigorous specimens, 1¼ inch across, and of the purest, deepest, and most brilliant rose, the petals being quite level and firm-looking, with the outer margins slightly notched. In a wild state, and in poor sandy earth on well exposed rockwork, specimens may be seen in perfect bloom and robust health at 1½ inch high, and even less; but at lower altitudes and in a deeper soil, it is sometimes to be found 3, 4, or 5 inches high. In rich deep sandy soil in gardens it will also attain this height, or a little more, perhaps at some slight loss of neatness and compactness. It is surpassed by no Alpine plant in vividness and purity of colour. It is so dwarf in habit, and has flowers so large, that tufts of it might at first sight be taken for the Alpine Pink, Dianthus alpinus, but its narrow and sharply-pointed grass-like leaves immediately distinguish it from that species. The colour is also more vivid than in D. alpinus. It is happily very easily grown, unlike some of the other Alpine Dianthuses, flourishing freely in very sandy loam, either in pots or on rockwork. It roots through the bottoms of the pots as freely as any weed, is perfectly hardy, and a very gem either for chinks or level spots on rockwork, in all parts of these islands. The fact that it is so very free renders it useful for the front margins of mixed borders in fine sandy soil, but when planted thus, it should be surrounded by a few stones half plunged in the ground, to prevent evaporation and guard it from injury. It is a native of the highest Alps of Dauphiny and the Pyrenees, Switzerland, and Italy, and is easily increased by division, and by seed. It was introduced to cultivation by Messrs. Backhouse, of York."—(*Florist and Pomologist*, 3 s. ii. 217.)

NOTES ON PRIMULAS.

Primula.—This is a very beautiful and interesting group of hardy border and rock plants, which in bygone years was much admired and extensively cultivated in this country, but latterly it has been entirely neglected, at least in the gardens of the rich. It is rather astonishing that it should be so; Primulas are so fragrant, so beautiful in colouring, and so neat in habit; and the majority of the species, flowering as they do in spring and early summer, present a character so desirable, that one would think lovers of flowers, whether professional or amateur, could not easily forget or forego it. There are signs, however, of the old love being taken up again. Some beautiful varieties of the Cowslip and Primrose are found very useful in the spring flower garden, for which they are very fit; and the catalogues of florists and seedsmen are swelling with new species and varieties, in addition to many old and well-known sorts.

The majority of Primulas are very accommodating in cultivation, adapting themselves to many kinds of soils and situations, but are most at home in sandy loams, deep and moist, but well drained, and in moderately shady positions. They are easily propagated by seeds, cuttings, and division, the last being the simplest and easiest process where large increase is not an object. In laying in first stock, seed is the best and cheapest way in the case of the varieties of P. Auricula, Primrose, and Polyanthus, unless fine named sorts are wanted, when they must, of course, be purchased in plants, and by name, the same as with other florists' flowers; and the finer and more rare species must be got in the same way, because seeds of these are not always procurable true in this country. For a couple of months or more after sowing, the plants do not require much room, and are liable to be destroyed by slugs and other pests, whilst in the tender seedling state. A cold frame, hand-lights, or glasses, should therefore, if possible, be devoted to them, in which they will be more easily guarded against all enemies than if they were in the open ground. If many sorts are to be sown, small pots should be used to sow in, and they should be plunged in sand or coal ashes. The soil should be sandy loam, peat, and well-decayed leaf mould, in equal proportions, with plenty of sharp sand to keep the whole sweet and open. Sow thinly, and keep the soil regularly moist till the plants appear, when caution in watering will require to be exercised to prevent damping, to which Primulas are all rather liable in their first stages from seed. As soon as the plants are big enough to handle, they must be pricked-out thinly in pans, pots, or boxes, and returned to the frame, or set in a shady, warm, sheltered place, and well attended to with water, taking care, however, not to allow the soil to become stagnant with too frequent waterings, which would very soon be followed by sickness and death to the plants.

Primulas delight in moisture in the growing season; but a good sound watering at intervals, not daily dribblets or sprinklings, is what they want. When the plants have made sufficient roots and bulk of leaves they may be transferred to their permanent quarters, and well watered after planting, when they will need little more attention for the season beyond keeping them clean. If the seeds are sown in the end of March, the plants, treated as above directed, will bloom the following spring. In the case of getting up large quantities of Primroses and Polyanthuses, for the purpose of planting out in woods and such-like places, the foregoing directions would be troublesome and expensive, as these are only meant for the more valuable and rare species and varieties. The common varieties are best sown on a warm border in the beginning of April, in beds, broadcast or in drills, and, when fit to handle, planted-out in nursing lines in rich soil well manured with old hotbed dung. Cuttings are best put in in spring, when growth has fairly begun; the same soil as recommended for seeds is suitable for cuttings. Division should be done first after flowering is over, unless large increase of particular sorts should be desired, or when the plant is very weak, and would obviously be invigorated by being divided immediately before flowering commences; in such cases everything should be done to prolong the growing period, and all flowers removed as soon as they can be got hold of.

Under the name P. veris, Linnæus included the three forms of Primula most common in this country—the Primrose, P. vulgaris; the Oxlip, P. elatior; and the Cowslip, P. veris of modern botanists, being considered by him essentially the same for the purposes of science. But to gardeners and florists it is convenient to distinguish between the three forms, which are well marked and pretty constant in cultivation, at least, P. veris, the Cowslip. The common flowerstalk in this form rises considerably above the leaves, supporting an umbel of flowers; and in the single varieties, the corolla is small and cup-shaped, features that are lost sight of in the double varieties, or florists' Polyanthuses. From this form there are many varieties, some of which are most beautiful in their season, and worthy a place among choice plants. The commoner single sorts are suitable for planting in woods, and on banks, and about the edges of masses of shrubs.

P. vulgaris.—The Primrose is distinguished from the Cowslip by the flowerstalks having the appearance of springing directly from the root, and bearing each only one flower; there is, however, a common footstalk so short as to be concealed by the leaves. The corolla in the Primrose is larger than that of the Cowslip, and flat. There are many very interesting and beautiful varieties of Primrose, both single and double; the single varieties need not be enumerated, but are very useful for planting out in clumps or patches, as recommended for the commoner forms of Cowslip. The best of the double varieties are the flesh-coloured, the white, the sulphur, the lilac, the red, the coppery, and the dark purple; the last three are rare, and difficult to procure. All are invaluable for the spring flower garden, for rockwork, and for many other purposes in the kitchen and fruit gardens.

In *P. elatior*, the Oxlip, the common flowerstalk is generally shorter and stouter than that of the Cowslip, but is variable in length and strength; always, however, showing the umbel above the foliage, and the corolla is broader and flatter than that of the Cowslip. This is the least constant form of the three, and

its varieties are less numerous and interesting than those of the other two; they are mainly useful for planting along with the commoner sorts of Cowslip and Primrose in woods and such-like places.

P. Auricula is the parent of the well-known varieties of stage and border Auriculas. In its native habitats on the German, Swiss, and Italian Alps, it is rather a variable plant, but not to such an extent as to shadow forth, even remotely, the endless and beautiful combinations that have sprung from it in the florist's hands. Yellow and red are the most common colours in nature, with purple occasionally, and selfs are more common than variegated varieties, which is also true of the majority of florists' varieties raised, only the variegated forms are the most favoured. It would take more space than can be allowed here, to notice in detail the method of cultivating and raising the finer varieties, which have been most favoured by florists; and it is the less necessary to do so, because treatises on the subject have been long in existence, and give details ample and curious enough to satisfy the most particular inquirer. Almost any of the varieties are worthy of cultivation, were it for no other purpose than that of yielding early crops of cut flowers out of doors. Where these are wanted in quantity, the fragrance and pretty colours of the Auricula render them very desirable. All that are suitable for this purpose may be grown in the borders of the kitchen garden, about the margin of shrubberies, &c.; and they will succeed in any common garden soil, if not too heavy and wet.—W. S. (*The Gardener.*)

PLANTS FLOWERING IN SEPTEMBER.

Sept. 2. Tritoma Uvaria grandiflora
Delphinium formosum
Aconitum autumnale
Napellus versicolor
Ajuga genevensis
reptans
Zinnia elegans
Artemisia maritima
vulgaris
Aubrietia purpurea
Helianthus annuus
Bupthalmum salicifolium
Escallonia rubra
Fuchsia globosa
Campanula muralis
Hostii
Chrysocoma Lynosyris
Clematis cærulea
tubulosa
Cramhe maritima
Dactylis glomerata variegata
Crucianella stylosa
Dracocephalum canariense
Erythræa Centaurium
Eupatorium cannabinum
purpureum
„ 6. Corydalis glauca
lutea
Gaillardia picta
Salpiglossis atropurpurea
Leycesteria formosa
Gazania splendens
rigens
Euphorbia amygdaloides
Dianthus deltoides
superbus
Eryngium alpinum
Cyclamen europæum
Coronilla var a
Portulaca alba
Lavandula spica
Colchicum autumnale
Jasminum officinale
Frankenia lævis
Geranium sanguineum
lanceastriense
Silene Schafta
alpestris
Hieracium aurantiacum
maculatum
Linum candidissima
Lewisii
Jasione perennis
Liatris spicata
Lychnis Haageana
coccinea
Solidago virgata
Hypericum calycinum
„ 9. Lysimachia vulgaris
Oxalis Bowieana
Myosotis palustris
azorica
Mirabilis Jalapa
Sanguinaria canadensis
Papaver orientale
Sedum dentatum
Telephium
sexangulare
purpureum
Mentha viridis
piperita
Pulegium
Lobelia cardinalis
propinqua
St. Clair
Œnothera grandiflora

Sept. 9. Œnothera biennis
taraxacifolia
Drummondi
macrocarpa
Cynara Scolymus
Erica vulgaris
cinerea
stricta
vagans
„ 15. Vittadenia trilobata
Potentilla alba
atrosanguinea
sulphurea
Saponaria officinalis plena
Rudbeckia fulgens
laciniata
Geum riva e
montanum
Gladiolus brenchleyensis
Lithospermum fruticosum
Helianthus multiflorus plenus
Hordeum jubatum
Hyssopus officinalis
Koniga maritima
Gnaphalium margaritaceum
Linaria Cymbalaria
purpurea
Nepeta violacea
Mussenii
Polygonum Brunoni
„ 20. Mimulus maculosus
moschatus
cuprea
atrosanguineus
Phlox Drummondi
Clintonia pulchella
Santolina alpina
incana
Polemonium cæruleum
Stenactis speciosa
Pyrethrum Golden Feather
Senecio adonidifolius
Statice Armeria
Statice bellidifolia
latifolia
Statiotes aloides
Abronia umbellata
Benthamia fragifera
Armeria formosa
Watsonia rosea
Tigridia pavonia
conchiflora
Symphytum asperrimum
Tanacetum vulgare
Veronica candida
canescens
incana
Andersoni
Zauschneria californica
Plumbago capensis
Alonsoa incisifolia
Calendula Pongei plena
Callirhoe pedata
digitata
Anagallis cærulea
Centaurea depressa
Datura Stramonium
fastuosa
Entoca viscida
Centaurea gymnocarpa
ragusina
Cineraria maritima
Calandrinia umbellata
„ 25. Rudbeckia fulgens
Achillea tomentosa

Sept. 25. Achillea Ptarmica plena
Clematis Jackmanni
Oxalis rosea
floribunda
Alstrœmeria aurea
flava
Draba muralis
Arabis lucida
Viola lutea
Arctotis breviscapa
Clethra alnifolia
Digitalis purpurea
Agapanthus umbellatus
Bromus brizæformis
Viscaria oculata
cœli-rosa
Ceanothus azureus
Agathæa cœlestis
Lychnis coronaria
Rhodiola rosea
Alyssum saxatile
Anemone japonica
Chelone barbata
splendens
Anthericum Liliastrum
Aristolochia Sipho
Calystegia pubescens
Asperula odorata
Aster spectabilis
Catananche bicolor
cærulea
Cheiranthus Marshalli
Aster Tripolium
Commelina tuberosa
Erigeron Villarsii
Campanula grandis
carpatica
Lorei alba
Gentiana asclepiadea
Pneumonanthe
Convolvulus cantabricus
mauritanicus
Erinus alpinus
Anchusa sempervirens

Sept. 25. Anchusa italica
Ammobium alatum
Typha latifolia
Veronica spicata
dentata
sibirica
Lilium lancifolium
Acroclinium roseum
Calliopsis Atkinsonii
Drummondi
Antirrhinum majus
Cerastium tomentosum
Clematis Vitalba
„ 30. Lonicera, Scarlet Trumpet
Gynerium argenteum
Fuchsia fulgens
serratifolia
Amaranthus tricolor
Tradescantia virginica
Trycirtis hirta
Acanthus mollis
Ageratum cæruleum
mexicanum
Heliotropes
Cacalia coccinea
Helichrysums
Rose, Devoniensis
Hibiscus syriacus
Impatiens Noli-me-tangere
glanduligera
Meconopsis cambrica
Cobæa scandens
Argemone grandiflora
Rose, Mariu Leonidus
Monthly China
Lavatera trimestris
Tagetes citrina
China Asters
Convolvulus major
Matthiola annua
Lychnis coccinea plena
Malva crispa
Aster puniceus
Spiræa tridentata

—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

NEW BOOK.

A Book about Roses: how to Grow and Show Them. By S. Reynolds Hole. W. Blackwood & Sons.

A very captivating book, containing a great deal of valuable information about the Rose and its culture, given in a style which cannot fail to please. The following is an extract relative to the Maréchal Niel Rose:—

"There seemed to be at first some hesitation among our Rose-merchants as to the propriety of a union between this delicate beauty and that rough, wild vagabond, the Jolly-Dog Rose; and it was 'sent out' generally budded or grafted upon the Manetti, or recently struck on its own roots, about the size of a toothpick. We have since discovered that, as fair damsels love stalwart knights, this Rose grows and blooms most vigorously when budded upon the Briar. This is the best stock for it, so far as my experience goes; but there is another with which it mates most happily, and of this I had last season a somewhat curious proof. Be it known, then, and *apropos* of mates, that the lady whom, on an interesting occasion, I endowed with all my worldly goods, does not avail herself of my matrimonial munificence with regard to my show Roses, but contents herself during the exhibition season with the produce of certain trees exclusively appropriated to her. One morning, towards the end of May, I listened with amused incredulity to her announcement, that she 'had just cut a beautiful bloom of the Maréchal;' and being perfectly sure that there was no tree of that variety in her collection, and no expanded flower on my own, I ventured to ask, with affectionate sarcasm, which of her plants had distinguished itself for life by this grand supernatural victory? The prompt answer was—'Gloire de Dijon: go to my room and look!' I went, expecting to see some abnormal specimen of the flower, and I found in all its loveliness, Maréchal Niel! Thence to the branch from which it came, and then the mystery was explained. I had mentioned to my gardener, in the preceding summer, some remarks which I had read from Mr. Rivers the younger, recommending the Gloire as a stock for the Maréchal. He had tried the recipe, as I now advise my readers to try it, and had first perplexed and then pleased me with the prompt success of his enterprise."

NUNEHAM PARK ONION.

In the "Report on Onions," in The Journal of Horticulture, page 286, the writer says that "the Nuneham Park is a thick-necked variety of White Spanish." Now, if the specimens exhibited at the Royal Horticultural Society, both by Messrs. Barr & Sugden and myself, had been examined, it would have been seen that they were of the flattest and most even shape, without the slightest approach to a "neck," of the whole collection on the stages.

Now for my own opinion on the merits of the Onion which I have studiously avoided pushing forward in any journal hitherto; but as I am backed up by scores of gardeners all over the country, I will maintain that what I said at first is perfectly correct—that it grows to the largest size and produces the

heaviest crop of all Onions, and this has been tested over and over again with most of the known varieties, by being sown side by side and under the same treatment throughout the season. In fact, so distinct even in its earliest stages is the growth, that no difficulty exists in plainly discerning its robust constitution. Another grand feature is, that of all Onions it is the most mild-flavoured, and many who cannot touch an ordinary Onion will eat this and enjoy it. I am amongst that number, and frequently have one roasted in its jacket for supper. And yet again another important feature; it is pale-skinned, white-fleshed, and keeps longer than any other Onion, not excepting James's Long-keeping.

I hope some of your readers will report through your pages the sorts they have grown this year, giving the size of the plot of ground and weight of the crop harvested.—James Cutbush, *Highgate*.

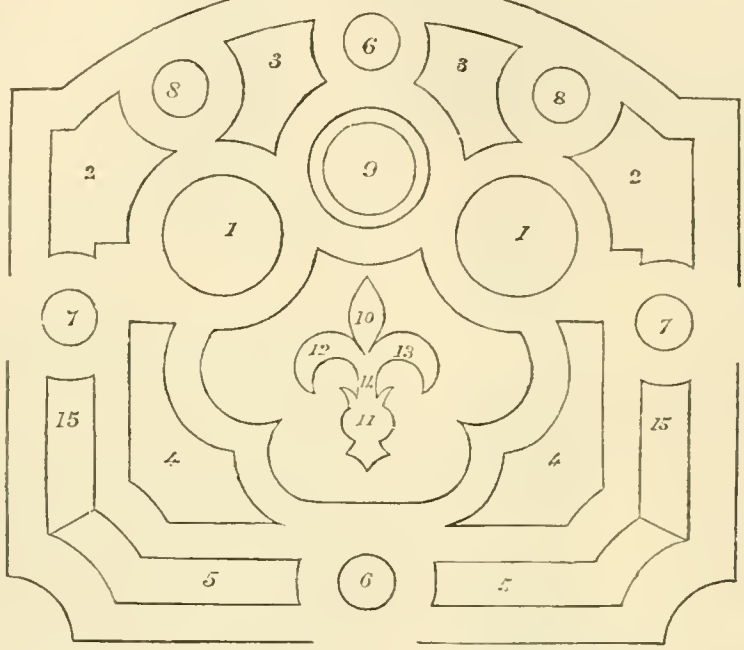
FLIXTON HALL, SUFFOLK.

Having just had the pleasure of spending three or four hours at the above-named place, a few notes may be interesting to some of your readers.

Flixton Hall is the residence of Sir A. Shafto Adair, Bart., and is a mile and a half from the Homersfield station on the Waveney Valley branch of the Great Eastern Railway. It is five miles from Bungay, and twelve from Beccles. On arriving at the Homersfield station I could see that some great mansion was not far distant, as the platform and windows were in a blaze with flowers and other garden ornaments. The road from the station to Flixton leads through a beautiful park 500 acres in extent, nicely undulated, and well stocked with fine Oak, Scotch Fir, Beech, and other forest trees, and upwards of five hundred head of deer.

Flixton Hall was burnt down in 1846, and rebuilt by A. Salvin, Esq., architect. It is a noble pile of red brick building, in the Elizabethan style of architecture. The carriage front is on the north side of the Hall, and is partly surrounded by a very beautiful and massive parapet of Portland stone, ornamented with coloured stone, under the direction of G. G. Scott, Esq. The enclosure is gravel, 240 by 100 feet. Three very handsome wrought-iron double gates lead to this front. These gates were made by Mr. Skidmore, of Coventry, and are much admired for their superior workmanship and ornamental character. An avenue 220 feet wide planted with Plane trees leads straight from the centre gates across the park, and has a very imposing effect. About 70 yards from the centre gates on the left-hand side is a fine old Oak, which appears to have been much shattered at some time. On making inquiry I was informed that about sixty years ago the yeomanry cavalry, one hundred strong, chiefly tenants on the estate, used to meet in this park several times in the year, and when the day's exercise was over they returned to the Hall by this tree, at which they discharged their guns. Nearly all the top branches were shot off, but the tree has somewhat recovered since that time.

At the south front and adjoining the Hall is a building 90 feet by 15, filled with a large number of ornamental vases of various sizes, for flowering and ornamental-foliaged plants during the autumn, winter, and spring months; also ornamental vases, which are filled with flowers and suspended from the roof. A very pretty flower garden on grass is on this front, the beds being all edged with stone; they are well filled, partly on the massing and partly on the mixed system. The good old Verbena Purple King has a leading part in the arrangement. The following rough sketch will show how this garden, measuring 170 feet by 150 feet, was planted this year.



1. Centre, Colaus Verschaffelti; Calceolaria Aurea floribunda, Pelargonium Flower of the Day. Border, Verbena Purple King mixed with Grania elegans.
2. Pelargonium Tom Thumb. Border, Verbena Purple King.
3. Pelargonium Stella. Border, Pelargonium Golden Chain.
4. Pelargoniums scarlet, white, and pink, mixed with Ageratum.
5. Calceolaria Kentish Hero.
15. Pelargonium Brilliant.
6. Pelargonium Flower of the Day.
7, 8. Calceolaria Aurantia.
9. Vase of mixed flowers.
10, 11. Verbena Purple King.
12, 13. Verbena Defiance.
14. Centre, Verbena Snowflake. Nos. 10 to 14 are surrounded by grass, the rest by gravel.

When seen from the upper windows this garden must have a very beautiful appearance.

On the left hand, leading from the Hall, and a few yards from it, is the conservatory, 100 by 21 feet, well filled with Oranges, Shaddocks, specimen Ferns, and other conservatory plants, including climbers, and two splendid plants of the Brugmansia alba covered with their large blooms, looking something like two mountains of snow, so thickly set were the blossoms. In the centre of the conservatory is a neat fountain with gold and silver fish, various Ferns being planted out all round, and from the frequent playing of the fountain they seemed to be quite at home. One end of this house is fitted up as an aviary, and is well stocked with choice birds.

On quitting the conservatory, just beyond the flower garden we find a sunk croquet ground 170 ft. square, which is reached by three flights of stone steps. On the ground level, and partly encircling the croquet ground, is a large collection of Aloes of great size and beauty. Beyond this the ground is in course of alteration, a great mass of earth having been removed so as to obtain a gentle slope to the park, and other improvements are being made.

On the western side of the mansion is a broad, sunk gravel walk, 130 yards long, which leads to an ornamental piece of water. About 5 feet above each side of the walk there is a series of beds, eighty in number, well filled with choice plants; Ricinus, Gladiolus, and other tall plants being placed in the centre. Beyond the beds, on the left-hand side of the walk, is a wall 10 feet high covered with Ivy, and a ribbon border, 330 feet long and 6 feet broad, at the foot, which is planted thus—First row, Cerastium tomentosum; second, Campanula (blue); third, yellow Calceolaria; and fourth, scarlet Pelargonium. The mass of green Ivy foliage is a fine setting-off to the plants beneath it. In the ornamental piece of water above-mentioned are two islands, with a fine specimen Oak on each, and to look at those Oaks one would think they had been planted for years. A large tea-party was given in

this pond last year—I do not say in the water, for I believe the pond was dry, like most others, at that time.

Retracing my steps a short distance, I entered the kitchen garden, which is well cropped with the best of vegetables. A large piece of Henderson's Short-top Beet was a beautiful sight, level as a die, all the leaves from 3 to 4 inches high, and not "a rogue" amongst them. The roots were of uniform size, 4 inches in circumference, and of a fine dark colour. This is just the sort for a nobleman's table. Onions were remarkably good, larger than the general run this year.

Fruit of all kinds has been very plentiful, with the exception of Peaches, Nectarines, and Apricots, which have not been a good crop anywhere.

I next entered a span-roofed stove, 50 feet by 12, in which there was a collection of plants, including Orchids, Ferns, and other choice plants in a thrifty condition. Blooming and hanging in graceful profusion from the roof were Cissus, Allamandas, and Passiflora princeps, affording a delightful shade to the plants beneath them. The stove is heated by hot-water gutters, which create a humid atmosphere in which almost all stove plants luxuriate, and on one of these gutters Mr. Short has contrived a lot of boxes, 9 inches wide and 6 inches deep, half filled with sand, with moveable squares of glass to fit at the top, and which work in a grove for the purpose of giving air, &c. As Mr. Short said, "These boxes are just the things for striking anything and everything requiring heat."

I then entered an orchard house 70 feet by 6 feet, well filled with Peaches, Nectarines, Apricots, Plums, Figs, &c., all planted out and in good health. Unfortunately, this house is not heated, and as with almost all other orchard houses without heat in the blooming season, the crop has been almost a failure. Mr. Short proposes having a flow and return pipe before another season, and everyone else having such a structure without the means of applying heat when the trees are in bloom, should adopt the same precaution.

The next house is a span-roofed greenhouse 50 feet by 14, ready to receive a collection of Azaleas and other hardwooded plants. Another structure 25 feet long by 15 feet wide, contains a large stock of bedding plants coming on for next season, all in excellent condition. In a vinery 50 feet long by 13 feet wide, there was a good crop of fruit, chiefly West's St. Peter's and some other old sorts. I believe Mr. Short intends planting some newer varieties ere long. The next structure was a Peach house 50 feet by 13 feet, from which a good crop had been gathered in June. Then there were a vinery 30 feet by 12 feet, of which the produce was just finished, and an early vinery 30 feet by 12 feet, which came in in May, the Vines being pruned, and at rest.

There are several ranges of pits heated by hot water, containing some good Pines, Melons, Cucumbers, Capsicums, &c., and several hundred pots of Roses, Mignonette, &c., in good condition for early forcing. A large batch of Strawberries in pots, showed that they had been potted early and well taken care of.

Several fine rows of Sweet Peas divide some of the kitchen-garden crops from the main walks, leaving a margin between the Peas and Box edging for sweet-scented flowering plants, such as Mignonette and Stocks. Mr. Short has a Gooseberry —a seedling, I believe— with the fruit striped green and red. I also noticed a row of Skimmia japonica well fruited. This, I believe, is to be taken up for table decoration.

I next entered Mr. Short's cottage, which is a square, substantial building, facing the park, but just inside the garden, with a flower garden in front taken out of the park. It is a real gardener's cottage, being covered with Roses from top to bottom. I noticed inside the dwelling that experiments were going on there as well as in the most important parts of the grounds. Mrs. Short has reared a very pretty seedling Pelargonium, and has a young Oak tree growing in a vase of water, the foliage and roots appearing quite healthy. Fancy the Oak being made an aquatic.

Various improvements are projected. A new kitchen garden is about to be made, and the old one is to be cleared and planted with choice shrubs. New carriage drives are marked out, and there is a gasometer nearly finished, which is to contain gas for five hundred jets already fixed, and which will light the three carriage entrances, the hall, the gardener's cottage, the farm, stables, &c. This will be a great boon to all concerned, and a great saving of property in the end. When all the alterations which are in progress, and those which are contemplated, are finished, Flixton will boast of having one of the finest gardens in the eastern counties, and great credit is due to Mr. Short, the head gardener, to whom the care and arrangement of the gardens are entrusted.—J. Perkins.

P.S.—I forgot to mention that in the orchard is a large Oak tree, the branches of which spread into three different parishes —viz., Homersfield, Flixton, and St. Cross. The age of this tree is not known, but its branches cover a circumference of 297 feet.—J. P.

GRUBS.

In "Doings of the Last Week," by "R. F.," there are some remarks on these annoyances, and I hope he will pardon me if I venture to say that in those remarks there are some errors. Firstly, "R. F." says that "the worst form of Cabbage grub is the larva of the cockchafer." Here, I think, he is quite mistaken; the larva of the cockchafer is a feeder chiefly on the roots of the grass tribe. I have never found it in the garden soil, unless on an old burnt weed heap, where grasses are growing. It is, I believe, a disputed point whether these and the larva of the crane fly or daddy-longlegs, also a grass-feeder, feed on the roots of the grass tribe or on the soil in which the Wheat or other grass may be growing; the result is equally the same—the death of the herbage. To this point I will return presently.

The eggs of the cockchafer are yellowish in colour. The full-grown larva, over 2 inches in length, is really a disgusting object, having a large yellowish-brown head, armed with very formidable mandibles; its six legs are very strong, placed near the head, and are of the same colour as the head; the rest of the body is whitish yellow, except that towards the tail there is generally a large portion, say a third, of the whole insect that is brownish blue or blue in colour. It is invariably doubled up on itself, so that the tail is, as it were, clasped by the legs. There is no resemblance whatever between the larva of the cockchafer and that of the crane fly; the latter is of a uniform brown colour, about 1½ or 2 inches long, and about one-quarter the diameter of that of the cockchafer, which is half an inch in diameter. "R. F." is right in stating that the crane fly larvæ have no feet, but I think they have a few prominences at the head and tail which do duty for the same.

Rooks greedily devour the larvæ of the cockchafers, and so, I suspect, do starlings, probably also blackbirds and thrushes; but our beautiful songster, the lark, is a grand enemy to the crane fly larvæ when it has young, and I have seen its nest with dozens of dead larvæ strewed around. The cockchafer, the perfect insect, I mean, feeds very constantly in the daytime, preferring the Oak and Maple; the former is often stripped by it. Here let me be just; the sparrow is no favourite with me, the idle vagabond prefers hopping to our fowl-yards for food to searching for his daily bread, but during the cockchafer-time he devours not a few, searching for them under the leaves of the Oak, stripping off their wing-cases, and feasting on the dainty morsel, and I have often seen the ground under Oak trees strewn with the wing-cases, and watched master cock sparrow at work. The cockchafer remains three years in the larva state.

I have said it is a disputed point whether they feed on the roots of the grass tribe or on the black earth in which the grasses grow. I think the great number of larvæ are in some degree coloured by their food; for instance, I have removed green larvæ of the Syrphus, one of the fly tribe, from Currant trees, where they were feeding on the green aphis, to a Morello Cherry, and in a day or two the black aphis food has perceptibly altered the colour of the larvæ. The fact that, if you crush the crane-fly larvæ, the contents are black and earthy-looking, also favours the idea that the earth may be its food, but with underground livers it is difficult to decide.

Supposing, however, that I am right in saying that the cockchafer larvæ turn up their noses, if they have any, at Cabbages, who are the wrong-doers? One larva that acts in this way at the present time of year is that of the various tribe of dart moths. I hear the larvæ of these moths are known among gardeners by the name of "leather-jackets." Are these the culprits? A very clever gardening friend of mine says that they are only to be got rid of by search and hand-picking.

Of course, with many of our pests the surest method of lessening them in the larva state, when they are usually most destructive, is to destroy the perfect insect. Cockchafers are so easily collected by children in the daytime, and to those who keep our feathered friends—poultry, are so useful as insect food for them, that it pays to employ some children for the purpose. The first throwing-down of a cockchafer amongst a group of chickens is ludicrous enough. First, the horror and

amazement as they eye the monster, evidently doubting whether the ultimate verdict will be reversed, and the beetle swallow the chick; at last one more venturesome gives a peck, and by degrees summons up sufficient courage to run off with it, followed by the rest, each in turn possibly undertaking the carrying business; then one bolts the dainty tit-bit. Henceforth the mystery is solved, reminding us of Charles Lamb's history of roast pig; for as the pigstyes were continually being burnt after the discovery of the luxury of roast pork, especially "crackling," so with the chicken, the second cockchafer is most unceremoniously seized and devoured. I do not doubt that chickens would pay the same attention to the crane fly, only that the latter, if not disabled, would probably not sham death, as does the cockchafer, but speedily fly away. When, however, they occur so thickly as they appear to have done latterly in some parts of the country, that they might be "swept up," as "R. F." says, then probably they would be so injured as to prevent flight. A little boiling water would make death certain, and I fancy chickens would eat them then; if not, they might still be useful as manure.—Y. B. A. Z.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Now is a good time to thoroughly drain any part of the garden requiring drainage, to replant the Box and other edgings, to mend the grass in these where it is not necessary to relay the whole, to prepare gravel, &c., for new walks, or for repairing the old ones, and to make any necessary alterations. Thoroughly trench and drain ground newly taken in, and every spare piece in the garden, choosing suitable weather. Care should always be taken not to operate on close, retentive, badly-drained soils when full of water, which they will continue to be if heavy rains prevail. *Broccoli* now becoming too luxuriant may be checked by laying it down. Some of the *Cauliflower* plants of suitable size and age should be potted and placed in Melon pits and frames, turf pits, or temporary pits made with a few stakes, and interwoven with evergreen boughs, furze, heath, fern, or straw. They may then be covered, when frost is likely to occur, with Pea haulm, evergreen boughs, mats, or anything that is convenient, laid on cross poles or sticks. A quantity may also be placed in warm, sheltered borders, or corners, and if taken up with balls of earth and sheltered temporarily, as above recommended, both Cauliflowers and Cape Broccoli can be secured in succession throughout the winter, until the early varieties of Broccoli come in naturally, thus securing a regular supply the whole of the year. Warm, dry borders and banks should be prepared for early Peas and Beans, so that time may be allowed for exposing the soil to the influence of the atmosphere. Secure the supply of the best *Red Cabbages* for pickling while they are sound and good, after they have had sufficient frost to stay their natural colour. Strong plants of *Lettuce* of the hardy kinds should now be planted in well-prepared, dry, warm situations to stand the winter. Small *Onions*, too, should be thought of while they are good, for the same purpose as the Red Cabbage. See that the Pea and Scarlet Runner stakes are snugly tied in bundles, stacked away neatly, and thatched with reed, straw, or evergreen faggots. Prepare in wet weather straw mats, thatched hurdles, &c., and tie Russian mats in readiness for use. Hoe and stir amongst all growing crops in suitable weather, and collect all dead and decaying leaves. Those who have spare ground should still continue to put out Coleworts and Cabbage plants, or if any strong plants of *Savoys*, or the varieties of *Kale*, should be left in the seed beds, by all means plant them out thickly—say at the same distance as for Coleworts. Those who are fond of *Turnip Greens* at an early season, if they have any overgrown bulbs left in the beds, should at once collect them, and plant them 1 foot apart on warm spots, or on sloping banks.

FRUIT GARDEN.

Remember in collecting the late varieties of Pears, that they do not generally come evenly to the proper condition to gather, but ripen in small patches, while others on adjoining branches cling firmly, and in some cases do not arrive at a fit condition to gather for several days. The storing of fruits, as well as the after-management, must this season be accomplished with particular attention. The Apples and Pears should be carefully wiped and regulated after sweating. The Medlars and Quinces should be collected in good condition. To select perfect Walnuts for storing, the best plan is to immerse them in water after the husks are taken off, and all that are quite perfect at once sink to the bottom, while the imperfect ones float on the top; even those which have the least possible deficiency in the kernel will float. Those which have sweated should be well cleansed, by being placed in a dry sack, and shaken by two persons from end to end; the friction will clean them perfectly, and then they may be stored.

FLOWER GARDEN.

In some localities the cold nights we have lately experienced must have greatly damaged the appearance of the more tender kinds of plants, and those which are to be saved should be removed at once. Proceed, therefore, with potting such plants with as much dispatch as possible, and if practicable a little artificial heat should be applied to help them to root before winter. In general, a show of spring-flowering plants is quite as acceptable as the more gaudy occupants of the parterre in summer, and steps should be taken to fill up the beds as they are cleared, for the purpose of contributing to the enjoyment of spring. A miscellaneous mixture of dwarf early-blooming shrubs, perennial plants, and bulbs, are most commonly planted; but in regularly laid-out beds, as in geometrical flower gardens, the disposition of colour should be carefully considered, as there is an abundance of spring-flowering plants and bulbs to form a rich and varied display, if properly arranged and carried out. Lawns will now require daily sweeping to keep them neat; roll constantly wherever the turf is hollow, to keep a firm sward. Clean gravel walks for the winter, and afterwards let them be well rolled, in order that the water may pass freely off the surface. All operations of planting, relaying turf, and border-making, should be actively proceeded with.

GREENHOUSE AND CONSERVATORY.

It not unfrequently happens in otherwise well-regulated establishments, that the conservatory is during the winter months crammed, without regard to order and neatness, with a miscellaneous assemblage of old family favourites, in the shape of large Myrtles, American Aloes, Orange trees, &c., all, perhaps, very useful in decorating certain and suitable situations in the open air during the summer months, but by no means proper objects in a modern conservatory, more particularly if it form part of the family residence, with which all good conservatories ought to be connected, and where, consequently, the greatest order and neatness are absolutely necessary. Those who are anxious to preserve this ornamental appendage to a mansion in all the beauty and order which is possible, will devise a variety of means for the preservation of plants during the winter months, provided room cannot be found for them in the other horticultural structures of the establishment, and as such plants will endure much hardship without injury, there will be no great difficulty in preserving them throughout an ordinary winter in temporary structures erected of any dry material, such as fern, heath, or furze, which can be conveniently obtained, taking care to provide the means of giving a portion of light and air on all favourable occasions. Air should be freely admitted to the conservatory whenever the weather is favourable, but it should be regulated so as to avoid draughts, which under any circumstances are injurious. Dry weather should likewise be taken advantage of to clean the surface soil of pot plants, and to wash the outsides of the pots to promote free evaporation from the soil during damp weather. Great attention should likewise be bestowed in keeping the shelves, stages, and paths free from dirt, decayed leaves, &c. These little attentions give houses an agreeable look at a season when flowering plants are becoming scarce. Conservatory and stove climbers trained under the roof will require an additional cutting-in to allow more light to pass to the plants underneath. Such as have done blooming may be well thinned out at once, and the remaining shoots tied somewhat more closely together. Hardenbergias, Kennedyas, and other early spring-flowering climbers should, however, not be disturbed at this season. Before placing Gloxinias, Achimenes, and similar plants to rest, let each be labelled, in order that no confusion may arise when they are wanted in spring. All the above keep much better in the pots in which they grow than anywhere else, and should be wintered in a room or shed where there is no danger to be apprehended from frost.—W. Keane.

DOINGS OF THE LAST WEEK.

Rubbish Heaps.—As a continuation of what was referred to last week, we may state that in places of considerable size, it is advisable to have two or three rubbish heaps in the course of the

twelvemonth, the oldest to be used first when all the bulky material is sufficiently decomposed. To give efficacy to such heaps of refuse, nothing is better than short grass, as its heating sets the whole mass fermenting, and the largest Cabbage stumps, Hollyhock stems, &c., thus soon become decomposed. The grass acts best when mixed with Cabbage stems, small prunings and clippings, &c., and when kept pretty well down, so that the heat from it will rise; and the surface should be covered with refuse soil, so as to prevent the fertilising gases from escaping, the strongest and most unpleasant to the sense of smell being most valuable when diffused and fixed in the mass. We have known such accumulations of short grass, left to themselves, become a perfect nuisance—nay, dangerous to the health of the workmen near them, whilst more spread-out and covered, they became valuable, and caused little or no offence to the passers-by. Even in a small garden, and especially where there is a lawn, and sides of walks to clip and clean, the quantity of rich excellent material that may thus be collected in a year is very great.

One great advantage of the short grass, and even a little stable manure, forming part of the rubbish heap, is that the heat not only decomposes what has rather too much woody fibre, as huge Broccoli stumps, but it also destroys many seeds, and drives away many insect enemies that otherwise would find a congenial home. We know in many cases it would save time to trench down vegetable refuse at once, and let it decompose slowly in the soil, and thus we have done with exhausted quarters of Broccoli, Borecole, and Cabbage; but such digging down did not improve the succeeding crop like a dressing from the rubbish heap, dug down or incorporated with the soil in the usual way. Besides, we have reason to believe that insect depredators often insert their eggs in the stems of vegetables, and if these are not well buried, the young larvæ could scarcely at first have better feeding ground; but when these are well sunk and well heated in a rubbish heap, there is more likelihood that eggs and larvæ will be destroyed.

A little salt or lime sprinkled on rubbish heaps will hasten the decomposition of organic matter, and make the heap more valuable; but much of the natural virtues of the heap will be retained by a surface-covering of soil, and a few barrowloads from the potting-bench, &c., may be left for the purpose, to be applied after depositing fresh vegetable matter. It is advisable, however, to have two or three heaps instead of one, and then they can be better attended to, and the one will succeed the other in fitness, to be applied as wanted. When woody refuse is charred, or strong weeds with some soil adhering to them, as couch and other grasses, are burned, the burnt earth, clay, &c., left, form one of the best materials for throwing over all rubbish heaps when in a state of fermentation.

We lately saw a very large oblong heap of the best dung decomposing just enough in a field, placed there to save carting a long distance when it was to be applied. This was turned over once or twice, and well mixed and heated; a good portion of its best properties would have escaped into the general atmosphere, but as a huge heap of twitch had been burned, the ashes and earth from it thrown over the heap and along its sides prevented the escape of the rich gases. All fermenting masses of dung will lose much of their nutritive properties unless some similar method be resorted to. But for living so much in the open air, many farmers would suffer in health from the huge masses of manure thrown up in their yards close to the dwelling house, and with nothing done to prevent the escape of some of the best properties of the manure. With the rains washing some of the best properties of the manure in open yards into the nearest ditches and rivulets, and the escape of the gases from heaps of such manure when thrown together, it is no wonder that artificial manures at a high price have to be added to make the old dung heap at all effective; these artificial manures, in many cases, doing little more than restoring what has been lost by our own carelessness.

Charring Woody Refuse.—We have such a quantity of woody rubbish, that we are anxious to char a lot of it, but cannot well begin in such fine, mild weather, as there is sure at first to be a great and disagreeable smoke from the loppings, prunings, &c. We say nothing now of charring large wood; that is done by having the fire well lighted and then excluding air, only admitting a little so as to secure slow combustion, but not so much as to allow the wood to flare, for then it would burn to ashes instead of merely being charred through. In general charring, the best covering is turf, and then earth over it. In charring a lot of small wood, prunings, branches, Hollyhock stems, &c., it would be too much trouble and expense to use turf for such a purpose, as a large heap soon becomes small when the fire has taken hold and the charring commences; and treat as you will, unless you faggot previously, which, again, is too much trouble for the result obtained, the heap will be apt to sink unequally, and thus air will find its way in and cause the heap to flare unless watched. For charring all such wood rubbish, nothing is better than a slight covering of mowings and sweepings of grass and tree leaves, with a little earth over them, until the heap subsides, after being well heated, when a little more earth may be added. The charring heap and the rubbish heap will thus mutually assist each other.

There is one more matter to be considered about the charring heap, and that is, before burning it up, or rather making it small by charring, wherever wood is scarce a lot of the best prunings should be made up into bundles for lighting the hothouse and other fires. A man with a bill and an elevated block will soon make up a number of these little bundles from prunings, and if the heap is near a shed the work may be done in a wet day. The little bundles may be from 12 to 15 inches long, and from 5 to 6 or more inches in diameter, have a small handful of straw in each, be tied with a small band of straw, and be piled in a shed; they will always be dry and easily kindled when wanted.

All these are operations that may receive attention now, when a little breathing time can often be had after the summer. We shall shortly mow a part of the pleasure grounds in which the grass is too long and rough for our machines, and we should like to make a base of the grass and some stable litter, turn over part of our more recent rubbish heap upon it, and place more grass in alternate layers. Such a heap, we know from experience, would turn out well after the New Year.

Since writing the above, a favourable change in the wind carrying the smoke from the direction in which it would have been unpleasant, we were tempted to try and lessen the bulk of a lot of spray wood, prunings, twigs, &c., and we managed to char a quantity. For all small twigs it does not answer to continue the charring process long; from twelve to eighteen hours, or even much less, are generally sufficient, because take what care you will, with such small brushwood to deal with, the air is apt to find its way in; and even bank up as you will, there is so little substance to fall back upon, that you are apt to obtain ashes instead of charred material. Of course, what we have is rather rough, and had to be watered as soon as taken out; but when cooled and passed through a fine sieve we obtained a large heap that will do for potting, pot-draining, &c., and another large heap of black dust, first-rate to serve for sprinkling and surfacing for cuttings, &c. What was left in our heaps we appropriated to burning up weeds, old soil, and stumps and stems that would have been of little use either in the charring heap or the rubbish heap.

Sawdust.—We have this pretty well charred, and therefore made useful, by mixing it sparingly with the brushwood charred; and though by leaving open conduits for drains for air we have sometimes been fortunate in charring it by itself in a heap, yet on the whole our success was very unsatisfactory, and the result hardly justified the labour and trouble involved. In many places sawdust, both hardwooded and softwooded, is often so abundant, that it is desirable to get rid of it, being of but little use so far as cultivation is concerned. If charred it would be invaluable as a surface-dressing, and as helping to keep enemies away. Anyone who can tell of a simple, easy, inexpensive process, by which the charring of sawdust can be accomplished without ovens, retorts, or anything of the kind, would be conferring a benefit upon many.

Perhaps the most useful purpose sawdust can be applied to in a garden is, when tolerably fresh and dry, using it for giving a mild bottom heat to plants plunged in it. Thus used it will retain its heat for a long time. The only drawbacks are, that if the bottom of the pot rests on the sawdust the hole in the pot will be so apt to be clogged as to prevent water passing off freely, however well the drainage has been attended to; again, fungi, &c., are so likely to appear, as to require watching and destroying by quicklime applications.

We have seen sawdust recommended for packing fruit, roots, and even banking-up Celery, but for none of these purposes should we like to use it, as it is likely to heat and always to give a disagreeable taint to whatever is edible that comes in contact with it. In plunging plants in it, it is easy to avoid choking by the battering-up of the drainage hole; but neglecting the precaution of looking after such matters has ruined many a plant. The more water was used the more would the

sawdust insinuate itself gradually into the hole, until it became as impassable to water as a cork. We have seen dry sawdust used with good effect when mixed with tan that was rather wet; but even then, though pleasant to work amongst, and moderating and continuing the necessary temperature, the presence of fungi, &c., was often troublesome, and they spread with great rapidity. Charring would be the means of making sawdust most useful.

KITCHEN GARDEN.

We have been more fortunate than our neighbours generally in escaping the ravages of *grubs* this season, though Lettuces and even Cabbages have been attacked in solitary cases. We attribute this escape to anything but peculiar treatment of our own, though a little extra care in looking after the grubs and making places uncomfortable to them may have had something to do with it. From most parts the accounts we receive would lead us to suppose that Cabbages and Cauliflowers just planted out suffered most. In our case we have suffered most as respects fresh-planted Lettuces. Of Cauliflower turned out in squares, to be covered ere long by hand-lights when they can be spared, none as yet has been touched. The ground was forked over several times previously, some hot ashes from one of the burning heaps, not much less hot and alkaline than lime, were forked-in, and when these had lost their heat the plants were dibbled in with a little rough sand on the surface, and then a little of the same warm ashes and burned earth from the heaps was laid at a little distance, as a cordon round them, along the ground. We can see in a dewy morning by the slime left that slugs had been attracted by the scent of the young Cauliflower plants, but had turned their heads a different way as soon as they came to the unpleasant barrier. It is just possible that our seed beds of Cabbages, Lettuces, Cauliflowers, &c., owed their freedom from the grubs to somewhat the same cause, though we fear that would be jumping too rapidly to conclusions.

We trusted lately that the grub might not care for seed-beds, as ours were untouched; but as if to dispel any such fond delusions, a market gardener who raises numbers of Cabbage plants not only for his own land, but to supply several market towns with plants, has been unable, after repeated sowings, to obtain plants this season, the grub clearing all before it almost as soon as the plants were above ground. As formerly stated, we used to suffer most just when the plant was in a languid state from transplanting. The market gardener alluded to has not had the chance to transplant. He also says, it is all nonsense about soapsuds, soot, and lime being of any use in driving grubs away, as they are quite comfortable in little heaps of soot. We can only express our regret at this being the case, but when we suffered, these means were so far effectual with us. We agree that no plan is so good as catching and killing them, but we have doubts of what he thinks is the next best plan—namely, trenching them down before planting. We should be afraid that those we turned down would soon find their way up again, whilst those which had gone down, thinking they had devoured enough, might, if brought up nearer the surface, be tempted to take a fresh lease of grub existence, and nibble a few more plants before they entered on their rest or chrysalis state. We should have more faith in surface-stirring, with a little application of those unpleasant surface dressings noticed above. We are, however, by no means satisfied with our knowledge on this subject, and shall be glad of all information the result of close observation and of practical utility.

It is seldom that we have to deplore any evil, but we can easily conceive there might have been a worse one. Here is a man fretting because the grubs threaten to monopolise his young Cabbage plants, and yet if he would only look at his Coleworts, Borecoles, Brussels Sprouts, and Broccolis, he would be forced to own that he never saw them look more healthy and beautiful. Often he has seen the foliage ragged and torn to strips by the ravages of caterpillars, now he may search his place through and not find one. There is rarely a cloud that is all black, if we would only look at the break that lets the bright light through.

Seeds.—The statements, as published, of seedsmen anxious to get rid entirely of a deceptive system is very interesting, but we fear that many will be inclined to think they have been cheated, when there was every desire on the part of the merchant to use his customer honestly. For ourselves we have less faith in any legal enactments than in dealing with respectable houses and paying fair remunerative prices. In such cases if there is a little doubt about the seeds it will be frankly stated, and the user will be told to sow a little more thickly. Never were there more complaints about seeds not coming up than this season in gardens. We believe that in general seeds were never better nor fresher. The season, as respects dryness, when we could not counteract it by modes that could be adopted on a small scale, and previously adverted to, did much to prevent the germination of the seed, or to shrivel it up before the seed leaves appeared. There are many causes of failure too often occurring that we are apt to lose sight of. For instance: in sowing Cabbages, Lettuces, &c., twice at the same time, and treating all as we thought nearly alike, there were three favourite kinds of Lettuce of which we did not raise a single plant from any of these sowings, whilst all the rest came up well enough and so thickly as to show that scarcely a seed had missed germinating. Now, we might have come to the conclusion that the seed of these three sorts must have been beyond question bad, and yet the examination of the seed did not lead us to believe so, and rightly as the result showed, for on sowing the same kinds from the same packets to stand the winter, the seedlings have come up only a great deal too thickly—in fact, must be thinned to give them a chance of standing. Now, we fear that many of the complaints of bad seeds are more owing to something else than the fault of the seed merchant. Very likely, but for a press of other matters to attend to, we should have found out the reasons why two sowings proved abortive. The result shows it was not owing to the seeds.

We stirred the ground amongst Spinach coming on well, and strewed burnt earth and ashes between the rows; we also tied Lettuces, blanched Endive, earthed-up Celery, especially one fine bed of Dwarf Incomparable, so as to be in fine condition in a month, and hoed among young Onions. We watered Cauliflowers coming into use, earthed one Mushroom bed and spawned another in the house, put a little more rough hay covering over the beds in the shed, and sprinkled the covering with manure water, so as to keep a close moist atmosphere near the bed, in imitation of the best Mushroom weather out of doors. Put some old lights over Dwarf Kidney Beans in a turf pit, where we generally have them late, and gave a little protection to Vegetable Marrows that we may have a good gathering before pulling the plants up, as we want the room.

FRUIT GARDEN.

The work has been much the same as already detailed; collecting fruit, giving more room and less water to Strawberry plants in pots, in order that the present glorious sun may act on the buds, and ripen them, which is of more importance than huge leaves and plants. Some of ours are quite large enough. All trees in orchard houses should now be allowed to become dryish, not dry, that the sun may have more power to mature the wood.

ORNAMENTAL DEPARTMENT.

This second summer is making the flower garden quite gay, and but for falling leaves we might consider ourselves in the beginning of August. The beds show little of the holes made by cutting-taking, which we could not help, though we would rather avoid. The late rains will produce fine Calceolaria cuttings when wanted. We shall be thinking about them at the end of the month. One great essential of success is having fresh soil to put them in. We do not see our old friend Mr. Robson's name so frequently as we used to do. Let us urge on all, and especially the holders of small gardens, their reading carefully the late article on raising some bedding plants from seeds. We would add that a small packet of Cineraria maritima seeds, say for 6*d.*, will yield a multitude of seedlings. Unlike the Centaures, however, the seedlings in the first year are rather green-leaved, but they come white in the second season. We also agree with him that the Verbena venosa is one of the best of the tribe for bedding, and it is easily obtained from seeds as he states. Sometimes the seed is long in germinating, and is often thrown out prematurely. When once raised, its creeping underground roots furnish plenty of plants.—R. F.

TRADE CATALOGUES RECEIVED.

William Paul, Waltham Cross, London, N.—*Rose Catalogue*, 1869-70.

T. S. Ware, Hale Farm Nurseries, Tottenham, N.E.—*Catalogue of Ornamental Trees, Shrubs, Climbing Plants, Fruits, Roses, &c.—Select List of Spring Flowers.*

J. Scott, Merriott, Somerset.—*Descriptive Catalogue of Nursery Stock.*

Thomas Rivers & Son, Sawbridgeworth, Herts.—*Descriptive Catalogue of Fruit Trees, by Thomas Rivers*, 1869.

Paul & Sons, The "Old" Nurseries, Cheshunt, Herts.—*Rose Catalogue*, 1869-70.

Jean Verschaffelt, Fanbourg de Bruxelles, Ghent, Belgium.—*Catalogue des Plantes—l'Automne*, 1869, *et Printemps etEté*, 1870.

COVENT GARDEN MARKET.—October 13.

Trade still remains dull. Hothouse fruit is more than equal to the demand. Wall fruits, such as Peaches and Plums, are almost over. Large quantities of Grapes continue to come in from Jersey, keeping prices of second-rate English Grapes down.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	1	0	to 1	6	Melons ..... each	2	0	to 5	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	0	0	0	0
Cherries ..... lb.	0	0	0	0	Oranges 100	8	0	14	0
Chestnuts .... bushel	0	0	0	0	Peaches ..... doz.	8	0	15	0
Currants .... ½ sieve	0	0	0	0	Pears (dessert) .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	Pine Apples ..... lb.	3	0	6	0
Figs ..... doz.	2	0	4	0	Plums ..... ½ sieve	3	6	5	0
Filberts ..... lb.	0	6	1	0	Quinces ..... doz.	1	6	2	6
Cobs ..... lb.	0	6	0	9	Raspberries ..... lb.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Strawberries .... lb.	0	0	0	0
Grapes, Hothouse . lb.	2	0	5	0	Walnuts .....bushel	10	0	16	0
Lemons 100	10	0	16	0	do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms .... pottle	1	0	2	0
Beet, Red ..... doz.	2	0	3	0	Mustd.& Cress, punnet	0	2	0	3
Broccoli ..... bundle	1	0	0	0	Onions..doz. bunches	4	0	6	0
Brus. Sprouts ½ sieve	3	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	2	0	2	6	Peas ..... quart	0	0	0	0
Carrots ..... bunch	0	4	0	8	Potatoes ..... bushel	2	0	4	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	3	6	5	0
Celery ..... bundle	1	6	2	0	Radishes doz. bunches	1	0	0	0
Cucumbers .... each	0	6	1	0	Rhubarb ..... bundle	0	0	0	6
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	8	0	0	Tomatoes ..... doz.	0	9	1	6
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	6
Horseradish .. bundle	3	0	5	0	Veget. Marrows .. doz.	1	0	2	8

TO CORRESPONDENTS.

*** We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

Books (*C. Lefebvre*).—Rivers's "Rose Amateur's Guide." (*Subscriber, Norwich*).—The "Fern Manual." You can have it from our office, post free, if you enclose sixty-four postage stamps with your address. (*M. E. H.*).—There is no edition of the "Hortus Britannicus" with plates of any kind, nor is there a work containing coloured plates of the groups you name. (*J. Matthews*).—"Wild Flowers of Great Britain," which you will see advertised this week.

Late Vines for a Vinery (*Rupert Gaulois*)—Your selection (four Lady Downe's, three Mrs. Pince, two Black Alicante, two Tottenham Park Muscat, one Muscat of Alexandria, one Bowood Muscat, one Muscat Hamburgh, one Gros Guillaume, one Trebbiano) is an admirable one; but you ought to have Madresfield Court. Suppose you have only three instead of four Lady Downe's, and substitute Madresfield Court for the fourth, you will not be disappointed. We wish we could recommend you a really good late white Grape instead of Trebbiano, but we cannot. We require a handsome late white Grape of superior quality. Let raisers of Grapes see to this.

Fruit-tree Stocks (*Nemo*).—You will be further forward two years hence by allowing your Paradise and Quince stocks one season's growth in the ground before grafting, than by planting in October and grafting the following spring.

Ribston Pippin Falling (*R. J. G. P.*).—You should have sent specimens to enable us to judge of the cause. It appears, however, to have been produced through a lack of support—a want of foliage on the spurs to draw to the fruit sustenance, which appears to have been all usurped by the strong shoot-development.

Colour of Grapes (*N. H. P.*).—The first sentence in our last answer fully replies to your query.

Pear (*J. S. A. G.*).—The Figue d'Hiver Pear is thus mentioned in "Hogg's Fruit Manual:"—"Fruit medium-sized, pyriform. Skin greenish-yellow, strewed with russety dots. Eye small, set in a shallow basin. Stalk half an inch long, thick and fleshy at the base, inserted obliquely, without depression. Flesh greenish, melting, juicy, sweet, and vinous. A second-rate Pear, ripe in November and December."

Verbenas (*M. E. E.*).—We cannot attempt to name the varieties of florists' flowers. They are in legions, and so often nearly alike that florists have a difficulty in distinguishing them when they have an entire plant before them. We think there are upwards of three hundred named varieties of Verbena.

Gardeners' Examinations (*C. F.*).—We cannot inform you which of the volumes of McIntosh's "Book of the Garden" is to be used as a text book for the examinations of the Society of Arts, but as no particular one is mentioned, we presume both are. We do not think it would be necessary for you to procure both of these and Thompsen's "Gardener's Assistant" as well; but we cannot say what the intention of the Society is; nor do we know if it is necessary to "have all the text books mentioned." You had better write to the Secretary, Society of Arts, Adelphi, London.

Messrs. Dickson & Sons (*James Hardie*).—Mr. Dickson died nearly two years ago.

Seedling Pelargonium (*T. E. B.*).—This seedling ("Geranium" you call it) had all its petals fallen. The truss is large, but of the colour there are many similar.

Roses under Glass (*O. E., Bristol*).—"A glass roof over a bed of Tea and Tea-scented Noisette Roses would be of great advantage, without protection at the sides of the same nature My opinion of Deveniensis, and, I may add, of Souvenir d'Elise Vardon is, that they have never been beaten. I have them now in profuse bloom on my south frontage. They have been in bloom all summer. When winter comes I put straw over their roots, and lean and tie a little Asparagus haulm against them, which is ample protection. I recommend Adrienne Christophle as distinct and very beautiful; and I hear well of Marie Sisley, and Madame Margottin is very good.—W. F. Radclyffe."

Wasps (*J. Prior*).—There are seven species of wasps in England. The specimens you have sent are of the large common wasp (Vespa germanica). Its nest, made in the ground, is shelly, and grey in colour. The small common wasp is Vespa vulgaris.

Specific Names of Plants (*Usil*).—The general rule is that when a plant is named after the discoverer or describer, the specific name is in the genitive singular, as Abies Douglasii, but in practice euphony is consulted. Two i's are employed when the Latin nominative ends in us or um, preceded by an i, as Douglasius, Douglasii; but only one i is used when the nominative is not so preceded, as Jackmannus, Jackmanni. In writing about many plants in a genus, some would say, for example, Gladioli, which is the Latin plural, but others would write Gladioluses, the English plural. It would seem pedantic to say Croci, Odontoglossa, Oncidia, Musæ, although these are the correct plurals of Crocus, Odontoglossum, Oncidium, and Musa. Custom is the only rule.

Planting Herbs (*S. J.*).—The best time to make new beds is at the end of March or beginning of April.

Hyacinth Compost (*Idem*).—Two parts turfy loam, one part old cow dung, and one-sixth sharp sand. Drain the pots well, and pot the bulbs at once. After potting plunge the pots out of doors in ashes, and cover with about an inch of ashes, and allow them to remain for six weeks, then remove them to a greenhouse or window, affording a position near the glass.

White and Blush Camellias (*Eve*).—*White:* Alba plena, Duchesse de Berri, Fimbriata, Mrs. Percival. *Blush:* Lady Hume's Blush, Triomphe de Leddi (striped rose), and Zoraide Vanzi. The Azalea bed should be planted now, or in mild weather until the plants commence to grow, but the earlier it is done the better.

Azalea not Flowering (*Pendragon*).—It is probably due to its growing too vigorously, and perhaps over-potting. Do you place it in heat to make the growths, and keep it cool, and well exposed to light and air?

Various (*Y. Z. N.*).—Charcoal used in plant culture is that from burned wood. Animal charcoal is not employed for such purposes. The special object of silver sand is to make the soil more open, and to keep it from becoming sour. When it is used, the wood becomes harder, and the growth is less succulent. Clematises are increased by cuttings of the firm side shoots in summer, placed in sandy soil in a shady place, and covered with a hand-light; but propagation by layers made now, but better in September, is a more certain method. It is now a good time to give your lawn a top-dressing of rich compost; and as its surface is wet, we would mix equal quantities of well-rotted manure, sandy soil, and ashes sifted through a half-inch sieve, and give the lawn a good dressing. The ashes will be better than the old lime rubbish, as the latter and the clay would form a sort of concrete. You may sow the seed now, rolling well afterwards; but we should wait until early next April, give another light top-dressing, and in moist weather sow Festuca duriuscula, 6 lbs.; F. tenuifolia, 2 lbs.; Poa nemoralis, 2 lbs.; Cynosurus cristatus, 6 lbs.; Poa trivialis, 2 lbs.; Trifolium repens, 8 lbs.; and T. minus, 2 lbs. These quantities are for an acre. With a north-west aspect, your external window case will not be suitable for flowering plants. It would answer best for Ferns, especially British and hardy exotic kinds. Being outside, it would only be suitable for hardy species, of which the following are desirable—viz., Asplenium marinum, Adiantum capillus-Veneris, Asplenium Trichomanes cristatum, Athyrium Filix-fœmina multifidum, Lastrea Filix-mas cristata, Polystichum angulare proliferum, Polypodium cambricum, Scolopendrium vulgare, vars. ramosum, crispum, and ramo-cristatum; Blechnum spicant cristatum, and Asplenium fontanum, surfacing with Selaginella denticulata. It would have a good effect, and be very suitable.

Shelter for a Garden (*E. R. P.*).—Poplar trees, because of quick growth, are mostly selected for affording shelter, and on that account we think they have been recommended to you. That they afford good shelter when young we know, but after they attain a considerable size they become bare at bottom and are useless as a shelter; besides, they are dull, frowning trees in winter, and are then of so little value as shelter as to be anything but desirable. A greater objection than all is their roots, which run an immense distance from the trunks and near the surface, being second only to those of the Ash in impoverishing the ground, whilst the trees, from their height, shade the ground for a considerable distance. For exposed situations, likewise, we cannot recommend them, as no trees are so liable to have their limbs blown off, and when they become old we consider them unsafe for this reason. We have removed trees from 25 to 30 feet high, and they did very well afterwards; but trees 12 feet high are quite large enough, and they are not expensive. The best time to remove them is in autumn, as soon as the leaves have fallen. We should advise a belt of Austrian Pines. They are of quick growth, evergreen, and stand wind better than most other trees; indeed, they make a better shelter than any tree we are acquainted with.

Wintering Golden-Feather Pyrethrum Cuttings (*A New Subscriber*).—We would plant out the cuttings now in a sandy soil in a warm sheltered situation, and they will stand the winter without protection;

indeed, it is quite hardy. We do not know where Achimenes atrosanguinea can be obtained.

Wintering Bedding Pelargoniums in a Pit (*C. B.*).—It is difficult to winter these plants in a pit on account of the damp, and the long period during which light and air have to be excluded in frosty weather. We should advise you to remove the sawdust, and replace it with rough ashes or gravel. For so small a pit a flue would be the most economical mode of heating, and that we would have formed along the front of the pit, having the furnace, which need not be large, at one end; 9-inch unglazed earthenware pipes would answer well for the flue inside the pit, the furnace being of fire-bricks. The joints may be made good with cement, or fire-clay if you can obtain it. The flue along the front will be sufficient. Have the elbow outside for the chimney, and do not cement that joint but mortar it, and you can remove it at any time and sweep the flue at will by pushing down to the furnace a bunch of Holly.

Skimmia oblata Propagation (*J. S. B.*).—It is not monoecious. The best stock is S. japonica, and it is sometimes worked upon that, but the majority of the plants are from cuttings or seeds. Worked on seedlings of S. japonica there can be no objection to plants of S. oblata, though we should not advise its being worked on plants from cuttings. Seedlings are stronger-growing. The plant you have of S. oblata is probably a seedling. It will grow stronger than one from a cutting, but the latter would produce berries sooner, and so would a grafted plant.

Stove Furnishing and Temperature (*Rus*).—Of plants for tubs, which we advise to be of slate, we should say you will not have room for many. Four tree Ferns would be enough:—Alsophila australis, Cibotium princeps, Cyathea dealbata, and Alsophila excelsa. Palms—Cocos coronata, Areca Verschaffeltii, A. aurea, Phœnix leonensis, Chamædorea graminifolia, and Livistonia Jenkinsii. Fine-foliaged plants—Croton pictum, variegatum longifolium, and angustifolium; Dracæna stricta and D. Cooperi; Calathea Veitchi, Alocasia metallica, Cyperus alternifolius variegatus, Dieffenbachia Pearcei, Pandanus javanicus variegatus, Theophrasta imperialis, and Cyanophyllum magnificum; Caladiums Bellemyei, Chantini fulgens, and Verschaffelti. Flowering plants—Anthurium Scherzerianum, Francisceа confertiflora, Gardenia florida, Ixora acuminata, I. javanica floribunda, Medinilla magnifica, Rondeletia speciosa major, Poinsettia pulcherrima, Cyrtoceras reflexum, Clerodendron fragrans plenum, Centradenia grandiflora, and Hoya bella. The back wall you may entirely cover with Cissus discolor, and of climbers for the roof have Stephanotis floribunda, Bignonia argyrea violescens, Passiflora quadrangularis, and P. Decaisneana. The lowest temperature should be 55° from October to February. Oranges and Figs would not do in such a house. Though the house would hold all the plants named they would soon become too large for it, especially some of the Palms and tree Ferns. "In-door Gardening" would suit you. It may be had from our office for twenty postage stamps.

Ground Vinery (*St. Dennis*).—You might leave all the Vines in your ground vinery for next season, and then only leave two, and those we would select would be Black Hamburgh and Chasselas Vibert. Most likely, as the wood is weak, you will not have much fruit next season, but the Vines will probably make good wood if well cut-in. It is of little use turning out strong, fine plants from pots, to fruit well the first season. Your plants would have fruited well in the pots; the turning them out gave them a check at a critical period, and though your canes showed fruit well, even after your thinning the bunches, the blooms refused to set. If you had merely plunged your pots, broken the bottoms a little, and top-dressed with rich manure, you might have had a good crop in the first season, but most likely you would have had to wait long for another. If you had plunged the pots after cracking the sides all round, so as to let the roots out, and taken three or four bunches from each Vine, the Vines would also have produced wood. We know we shall displease many, but still we must in fairness say that, as a general rule, a high-priced, strong, well-ripened Vine in a pot should not be planted out if fruit is expected the next season. Hence for ground vineries, we would prefer planting out only a moderate Vine as respects strength, spreading out all the roots neatly, and shortly afterwards cutting down the Vine, so as to leave only a few buds, taking no more than a bunch if it showed, and looking chiefly for a good strong single shoot the first season, to make the stem for future years. This is the surest way of going to work. The Vines taken up may be potted, but they will do little good the first season, so far as fruiting is concerned.

Sloping Bank (*A Lady in Cheshire*).—We are sorry that after attempting to revive the blooms and the little bit of shoot sent we have failed to do so. Most likely the plant is some kind of Lysimachia or Verbascum; but the specimen is too far gone, and too small, to enable us to say. For your sloping bank of grass facing the south, 4 feet high, nothing will be better than the grass; and though that is annually burnt up, this evil might be avoided by greater depth and richness of soil. The idea, however, of having Roses on a trellis is good, and if you adopt it, we would have the trellis in pieces, and hinged so as easily to reach the under side. There is, or was, such a trellis on the banks at a flower garden at the Earl of Derby's, at Knowsley. For securing continual greenness with but little trouble, and which will be little influenced by the drip from the large Birch trees, if we did not try grass again we would plant the bank with Ivy, and once or twice trimming in the twelvemonth would be sufficient to keep it neat. Of the Ivies, for this purpose we would prefer the common wild Ivy of the woods and hedges (Hedera helix) to the stronger-growing kinds, for though it would grow more slowly, it would need less attention after it had carpeted the ground. The day will come when Ivy will be more used as ground covering.

Solanum racemigerum (*An Inquirer*).—Your specimen is correctly named. It is the Currant Tomato, and we believe it to be as wholesome as the common Tomato.

Heating a Conservatory (*T. H. T.*).—If you are resolved on having a galvanised iron tank, we would dispense with coils in it, make it larger, say extending from the chimney stack as far across as not to be in the way of the door to the garden, and make it from 20 to 24 inches wide, with a division up the middle, except an open space at the farther end for the circulation; then merely take a pipe from the top of the boiler for the flow on one side, and a return pipe from the other to the bottom of the boiler. With water at 120°, that will keep your house in winter, even if the weather be rather cold, at from 38 to 45°. If you want more heat you must have more heating surface. Three 4-inch pipes—two flows and one return—would do in the place of the tank. The tank need not be more than from 5 to 6 inches deep. A foot deep, as you propose would give you a great body of water to heat, without any advantage. If you wanted more heat, the pipes might go right across the house in a trench below the level of the paths. A brick and cement tank would be more lasting than the galvanised iron. (*Dublin*).—The best mode of heating your house would have been to have taken pipes from the fireplace in the vault, having a boiler there, under your pathway. A flue would have done equally well. As you have the iron pipe, and that, as you say, becomes so hot, you might shut it in with bricks and tiles for at least part of its length next the fireplace. If it become nearly red hot it will injure plants, unless so guarded. Of course, without having a tolerably fair heat, its traversing only about one-fourth of the size of the house would be of but little benefit. The bricks and tiles would, therefore, be useful, and you could use evaporating pans to counteract the dryness. Do not think of wood; there will be danger of fire, and there will not be radiation of heat. We would now defer potting the plants you have neglected until next spring. We hope our correspondent will tell how he obtained so many flowers on the Lilium auratum. Meanwhile, let your bulb rest as soon as the leaves are yellow, and next spring top-dress with rich compost.

Forcing Mushrooms, &c. (*A Yorkshireman*).—If you had sent us a section of your barn and stable we should have known exactly what you meant. There need be no difficulty in forcing Sea-kale, Mushrooms, and Rhubarb in the same house; but if you depend on fermenting material alone for heat, and chiefly on that for preparing for Mushroom beds, there may be at times too much rank steam and moisture in the house to suit the crispness and the colour of the Rhubarb and Sea-kale. Such things without artificial heat do best when the beds are on the floor. When raised tier above tier we should not like the dung heat from a heap exposed in the house so well as a flue, as that will enable you to have dry heat or moist heat at will. We have done all you propose with a heap of fermenting dung alone, so as to keep up the atmospheric heat, and using heat, too, below the beds, but we would have preferred a flue. "Cuthill's Market Gardening" will suit you.

Mushroom Spawn (*A. B.*).—There is no known mode of procuring spawn from Mushrooms for planting. The spawn that produces Mushrooms is too far gone to be used for a similar purpose again—that is, as a general rule. The only mode of securing spawn from Mushrooms is to allow the Mushrooms to become rather old for use, and to lie and be exposed over such organic material as half-dried horse droppings, where they would spread their spores, and ultimately spread as spawn. As to procuring spawn, a heap of droppings will often produce spawn; but if you are inexperienced, the best mode for you to adopt will be to procure a bushel of spawn from a respectable nurseryman and seedsman. Perhaps, however, we do not understand the drift of your question; but we must say that besides the above, we know no other mode of obtaining spawn from the Mushroom. If we do not understand you, write again, and we shall do our best to meet your case.

Violet Culture (*A Subscriber*).—They like a situation shaded from the midday sun in summer, and we grow them on an east border, and on a north as well for succession of bloom. The soil most suitable is a good rich loam, well drained, and inclined to be sandy rather than clayey. New plantations should be made every year, using the runners of the current year, and, as soon as large enough, planting in well-dug ground, enriched with leaf soil or old cow dung. The rows should be from 15 to 18 inches apart, and the runners 1 foot apart in the lines. Water well until established, and throughout the summer they should be well supplied with water. To ward off attacks of red spider, sprinkle soot over the plants frequently in summer, which will much invigorate them. Keep them clear of weeds, and in autumn lightly fork the soil between the rows, and give a good mulching of leaf soil. You can hardly fail to have an abundance of flowers in spring. Two years are as long as the plants should remain.

Evergreen for Side of Bay Window (*A Subscriber*).—Ceanothus thyrsiflorus and Escallonia macrantha are fine; the former has blue, and the latter red flowers, and it has bright brownish foliage. Berberidopsis corallina is also fine.

Removing Oleander Flower Stems (*W. D. P.*).—The flower stems, if of this year's production, would flower again early next year if there were any buds unexpanded, as there usually are, and in that case it is wrong to remove them; but they do not always have such, yet it is a general occurrence. The finest flowers, however, are those from the well-ripened shoots of the year preceding their expansion, those from the old flower stems being useful on account of their earliness.

Climbers for Open-ground Trellis (*A Constant Reader*).—There are few evergreen climbers suitable for trellises in the open ground. We do not know of any but the Ivies and the Evergreen Honeysuckles, and the latter are only partially evergreen. All or most of the evergreen climbers require walls with south or south-west aspects. The following would be suitable:—Jasminum nudiflorum, Lonicera Periclymenum belgicum, and the Early White and Late Red; L. sempervirens Browuii and Shepherdi; Clematis Flammula, florida plena, montana grandiflora, Jackmanni, Vitalba, hybrida splendida, Viticella, and Helena; Ampelopsis quinquefolia, and Roses of the Ayrshire family—Alice Gray, Dundee Rambler, Myrrh-scented, Queen of the Belgians, Rues, and Thoreshyana, and of the Hybrid Climbing—Rivers' Queen, The Garland, Wells' White, and of the evergreen—Felicité Perpetuee, Princesse Louise, and Rampant. All are of free, rapid growth, and speedily cover a large extent of trellis, being fine flowering plants, except the Ampelopsis (Virginian Creeper).

Celery Infested by Fly (*Hordnip*).—The leaves sent are infested with the larvæ of the Celery fly (Tephritis onopordinis). We are not aware of a remedy. Pick off the leaves attacked and burn them, and when the foliage is wet dust it with dry soot. We find that by dusting the leaves earlier in the season, before the eggs are laid, the attacks of the leaf-miner are prevented. The eggs are laid from the middle of May to the end of July, but it is generally in the latter month that the autumn-brood eggs are deposited. It is enough to remove the part with the blister. (*C. B. R.*.—From your description we should say your Celery leaves were blotched and spotted brown from the attacks of the Celery fly, which is unusually prevalent this season. The only remedy is to pick off the spotted leaves, and either crush or burn them. The maggots you find are the larvæ of the Celery fly. See the above answer, also "Doings of the Last Week," page 289.

Eucalyptus globulus (*A. S——h*).—This highly-ornamental and fast-growing tree is, as you state, now extensively planted in the walks and squares of Florence, and we are of opinion that it and some other species

would endure our winters in the open air on the coasts of Devon and Dorset. Sir Joseph Paxton has recorded that "of those which have succeeded in the open air in the warmer counties of England, Eucalyptus robusta, piperita, and rotunda may be particularly mentioned; the two former flourish and grow vigorously in the Isle of Wight, where, in the neighbourhood of both Cowes and Newport, we saw plants in 1843, seedlings of but a few years old, which had already attained 20 feet or more high. They had stood two winters in the situations they then occupied, and had sustained no injury."

Moving Miniature Fruit Trees (*Amateur*).—If some of the leaves are becoming yellow you may transplant the trees at once.

Supplement to the Cottage Gardeners' Dictionary (*W. D.*).—A supplement was published last year. You can have it post free from our office if you enclose twenty stamps with your address.

Pansy Leaf Variegated (*Beckenham*).—It is not uncommon for Pansies to have their leaves variegated with yellow, but their value is not increased by it. The cause of variegation is obscure, but you will see it discussed at considerable length when the variegated Pelargoniums were under consideration, in our thirteenth volume.

Oak Lodge.—In Mr. Keane's report on Oak Lodge (see page 281), he wrote by mistake Eucharis magnifica. It should have been Medinilla magnifica.

Select Show Dahlias (*A Subscriber*).—The following are distinct and good:—Charlotte Dorling, Lord Derby, Leah, Chairman, Clara Simons, Harriett Tetterill, Uniquo, Fanny Purchase, Lady Gladys Herbert, Paradise Williams, Earl of Pembroke, John Wyatt, James Backhouse, Earl of Shaftesbury, Bob Ridley. Flag of Truce, Criterion, Andrew Dodds, Princess of Wales, Purity, Fair Imogene, Chairman, Lilac Queen, Donald Beaton, Flambeau.

Abnormal Primula Seedling (*R. Maries*).—It is the most striking variation we have ever seen. The flower is enclosed in a green calyx much larger than the corolla, and when first seen looks like a Primula embosomed in a much-cupped Pelargonium leaf.

Names of Fruits (*Pomona*).—Your Pear was named in our Journal of September 2nd. It was Williams's Bon Chrêtien. (*B. Chadwick*).—1, Wormsley Pippin; 2, Hollandbury; 4, Red Doyenné. (*D.*)—Flemish Beauty. (*H. J. C.*).—*Figs*: 1, Célestine; 2, Brown Turkey; 3, Brunswick. *Pears and Apples*: 1, Comte de Lamy; 3, Napoleon; 4, Van Mons Léon Le Clerc; 6, Beurré Clairgeau; 7, Van Marum; 8, Thompson's; 9, Winter Bon Chrêtien; 10, Red Winter Calville; 12, Blenheim Pippin.

Names of Plants (*J. R. Boyd*).—The fragment of the plant sent us is insufficient for determination; it is certainly Amaryllidaceous. Send when in bloom, and we will endeavour to assist you. (*Nanny*).—1, Apparently Monopsis debilis, but certainly one of the Lobeliaceæ; 2, Specimen too fragmentary. (*M. R. Crosby*).—1, The common curled Mallow, universally cultivated in gardens; 2, Adiantum fulvum; 3, Cheilanthes elegans. (*J. S. T.*).—1, Pteris cretica albo-lineata; 2, Trichomanes, specimen insufficient to say what species; 3, Gymnogramma chrysophylla; 4, Pellæa adiantifolia; 7, Selaginella hortensis, more correctly known as S. Kraussiana; 8, Pteris longifolia; 9, Eranthemum rubronervium; 10, Fittonia argyroneura. (*C. L. W.*).—Leucadendron argenteum. Treat it as a greenhouse plant. (*R. H.*).—1 and 5, Asplenum Adiantum-nigrum in different stages; 2, Asplenium marinum; 3, Polypodium vulgare; 4, Doodia caudata; 6, Adiantum capillus-Veneris. (*Agg.*—1, Echium vulgare; 2, Saponaria officinalis; 3, Verbascum nigrum. (*E. A.*).—1, Cheilanthes farinosa; 2, Pellæa geraniifolia; 3, Asplenium furcatum; 4, Pteris semipinnata; 5, Hemionitis cordata; 6, Gymnogramma barbarea; 7, Cincinalis flavens, otherwise Nothochlæna chrysophylla; 8, Asplenium, an insufficient specimen; 9, Gymnogramma peruviana argyrophylla; 10, A forked variety of the last; 11, Adiantum æthiopicum; 12, Adiantum tetraphyllum; 13, Rhipsalis salicornoides; 14, Phymatodes lineare; 15, Selaginella Kraussiana. (*A Sussex Lady*).—The common Hornbeam, Carpinus Betulus. (*Mrs. M., Bitteswell Hall*).—We cannot name plants from their leaves only, we must see the flowers. (*Novice*).—The flower is Fuchsia corymbiflora. The other, being a leaf only, we cannot name.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 12th.

Date.	Barometer.		Thermometer.				Wind.	Rain in inches.	General Remarks.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 6	30.154	30.136	65	34	56	55	S.E.	.00	Foggy; very fine; clear and fine; cold wind.
Thure. 7	30.151	30.084	69	45	55	55	S.E.	.00	Foggy; cloudy, but fine; densely overcast.
Fri.... 8	30.088	30.019	76	48	57	55	W.	.00	Cloudy; fine, cloudy, very hot; clear and fine.
Sat.... 9	3 .142	30 119	75	45	57	55	S.	.00	Dense fog; very fine and mild; clear, starlight.
Sun... 10	30.139	30.086	75	41	58	56	S.	.00	Foggy; very fine; foggy, very mild air.
Mon... 11	30.124	30.074	73	40	58	56	S.	.00	Foggy, very fine; exceedingly fine; clear and fine.
Tues.. 12	30.122	30.048	71	53	56	55	S.W.	.12	Foggy; very fine; densely overcast.
Mean..	30.131	30.080	72.00	48.71	56.71	55.29	...	0.12	

POULTRY, BEE, AND PIGEON CHRONICLE.

AUCTION AT THE BIRMINGHAM EXHIBITION.

I observe that the sale of prize birds at the next Birmingham Show is again fixed for 11 o'clock A.M., on Monday, the 29th of November. That time for persons who, like myself, reside at a distance from Birmingham, is most inconvenient—in fact, gives us no chance of purchasing, if we be so inclined. If you can in any way be the means of getting the sale postponed for, say, two hours, you would, I feel sure, be conferring a favour on many others as well as myself, and the show would, I imagine, reap the benefit of additional commission.—Robert B. Wood, *Staffordshire*.

EXHIBITING BORROWED BIRDS.

I know for a certainty that many gentlemen, not conscientious ones, borrow birds to exhibit at different shows. This is giving a poor chance to those who *bonâ fide* show their own. Is there no way by which such fraudulent offences could be prevented? I think every exhibitor should make a declaration that the birds are his own property, and that this declaration should be given to the Secretary on the day of the show, and if an exhibitor is detected showing birds not his own he should not be allowed to enter at that place again, and no prize should be given to his birds.—J. G. M.

CUP FOR HOUDANS AT THE NEXT SOUTHAMPTON SHOW.

The following are the subscribers:—Mrs. Wilkin, 5*s.*; "A Lady fond of French Fowle," £1 1*s.*; Mr. H. M. Maynard, £1 1*s.*; Mr. W. Dring, 5*s.*; Mr. O. Quibell, 5*s.*; Mr. F. Brewer, 2*s.* 6*d.*; Mr. P. P'Anson, 5*s.*; Mr. H. S. Fraser, £2 0*s.* 6*d.*—Total £5 5*s.*

Prolific Game Pullet.—Mr. James Balmair, of Bolam West House, Northumberland, has a Game pullet in his possession which was hatched on the 28th of February last, laid her first egg on July 15th, has laid forty-six eggs, and hatched seven chickens by September 24th; or laid her first egg when 137 days old, laid forty-six eggs, and sat for her own hatching in seventy-one days.—G. W. W.

LONG SUTTON POULTRY SHOW.

That this Show annually improves both in interest and arrangement there can be no dispute. A marked feature of the Show is, that those breeds most needed for the table are the best supported. A very liberal prize schedule, as usual, brought on the 6th and 7th inst. an equally liberal entry, and but for the simple fact that about sixty pens of birds arrived several hours too late for competition, the Show would have been far in advance of any of its predecessors. The folly we have so frequently pointed out of leaving birds for transit by the last possible train was thus again exemplified.

The *Dorkings* were mostly in deep moult, but the majority of them were of first-class character. The bulk of the *Cochins* were, on the contrary, in excellent plumage, and consequently an advantage in general competition ensued, as *Brahmas*, *Dorkings*, and *Cochins* competed in general for the cup prizes. *Hamburghs* were remarkably good—in fact, far better than they have been shown on any previous occasion in this locality. In connection with these a very singular circumstance transpired—an exhibitor had written beforehand to the Committee, or rather Secretary, stating his perfect willingness, if successful, to send £1 and a new hat or two to the Secretary, if he would draw the attention of the Judge to these particular pens. From their indisputable excellence the priority of position was given these fowls, as at a meeting held the previous evening the Committee thought fit not to disqualify them, though, as then stated by the Judge, had the missive borne his direction they would have been thrown out of competition at once. We sincerely hope such practices will not be again attempted. The *Polands* were very good, and the *French* fowls far superior to those seen at the generality of poultry shows.

The Aylesbury *Duck* and *Geese* classes were such as are but rarely met with, and a pen of first-class Sebastopol Geese are worthy of especial note. A class for ornamental birds of any variety, or any number in a pen, caused a severe competition. It proved one of the most attractive features of the Show.

All the *Pigeons* were of high excellence—in fact, so good a competition is very rarely met with, and the collection of *Rabbits* was considered as not less praiseworthy. Every possible care was bestowed on the

birds committed to the care of the managers of the Show, and we are glad to say that, favoured with exceedingly fine weather, the meeting was most successful.

DORKING (Any variety).—*Cock.*—1, H. Lingwood, Barking, Needham Market. 2, O. E. Cresswell, Hanworth Rectory, Hounslow. *hc*, L. Patton, Hillmore, Taunton. *Hens or Pullets.*—1, G. Clarke, Long Sutton. 2, T. E. Kell, Wetherby. *hc*, H. Savile, Ollerton; C. Clarke; D. White; H. Lingwood; L. Patton; J. Elgar, Osmanthorpe Hall, Newark (Silver-Grey).

COCHIN-CHINA (Any variety).—*Cock.*—Cup, T. H. Radman. 2, C. Sidgwick, Ryddlesden Hall, Keighley. *hc*, J. K. Fowler, Aylesbury (Partridge). *c*, A. Williamson, Queniborough Hall, Leicester (White). *Hens or Pullets.*—Cup, H. Lingwood (Buff). 2, T. M. Derry (Partridge). *hc*, C. Sidgwick; Mrs. J. Clarke (White); W. A. Burnell, Southwell, Notts (Buff; J. Cattell, Bingham; A. Williamson (White). *c*, S. S. Mossop (Buff); F. F. Anderson (Buff); T. M. Derry (Partridge); J. K. Fowler (Partridge).

BRAHMA (Any variety).—*Cock.*—1, Rev. E. Alder, Etwall Vicarage. 2, H. Savile (Light). *Hens or Pullets.*—1, Rev. E. Alder. 2, H. Savile (Light). *c*, Rev. E. Alder; W. Whitley.

SPANISH (Any variety).—*Cock*—1, Withheld. 2, H. Beldon, Goitstock, Bingley. *Hens or Pullets.*—1, T. & E. Combar, Myddleton Hall, Warrington. 2, F. James. *hc*, H. Beldon.

HAMBURGH (Gold or Silver-spangled).—*Cock.*—Cup, S. S. Mossop (Silver). 2, J. & R. Ashton, Mottram (Golden). *hc*, W. K. Patrick (Golden-spangled); J. Laming; H. Snushall. *c*, T. Walker, jun., Denton. *Hens or Pullets.*—Cup, T. Walker, jun. 2, S. S. Mossop (Silver). *hc*, D. Lord; J. Laming; H. Snushall. *c*, J. Walker.

HAMBURGHS (Gold or Silver-pencilled).—*Cock.*—1, S. Burn (Gold). 2, S. S. Mossop (Silver). *hc*, R. R. Parker (Gold). *c*, J. Walker; A. Cole (Gold). *Hens or Pullets.*—1, J. Laming. 2, A. Cole. *hc*, J. Walker; S. S. Mossop (Silver).

GAME (Black-breasted or other Reds).—*Cock.*—Cup, T. C. & E. Newbitt. 2, R. Hall, Cambridge (Brown Red). *hc*, Rev. T. O'Grady, Ashbourne. *c*, H. Snushall (Black Red). *Hens or Pullets.*—Cup, H. Mason (Red). 2, Hon. C. Fitzwilliam, Wentworth Woodhouse (Brown Red). *hc*, Rev. T. O'Grady; W. Boyes, Boverley; W. J. Popo (Black Red); J. Longbottom. *c*, H. Snushall.

GAME (Any other variety).—*Cock.*—1, H. Beldon. 2, T. Dyson, Halifax. *Hens or Pullets.*—1, H. Beldon. 2, J. Longbottom. *hc*, H. Mason (Duckwings). *c*, G. Leo (Duckwings); W. Boyes (Duckwings).

GAME BANTAMS (Black-breasted Reds).—1 and 2, W. T. Entwisle, Leeds. *c*, J. Crosland, jun., Wakefield. *c*, J. W. Morris, Rochdale.

GAME BANTAMS (Any other variety).—1, H. Shumach, Southwell. 2, R. B. Riley (Duckwing). *hc*, J. Crosland, jun. (Duckwing). *c*, J. Dring (Duckwing)

BANTAMS (Black or White). — Cup and 2, S. S. Mossop (Black). *c*, Hudson & Burnip (Black); A. Stonar (Black); J. Longbottom (Black).

BANTAMS (Any other variety).—1, A. Hodson (Gold-laced). 2, J. White (Pekin). *c*, H. S. Hunt (Japanese Silkies); T. C. Harrison, Hull (Laced); Mrs. Woodcock (Japanese); H. Draycott, Humberstone, Leicester; S. H. Stott, Rochdale (Japanese).

ANY OTHER DISTINCT VARIETY.—1 and 2, Mason & Walker, Denton (Black Hamburghs). *vhc*, S. S. Mossop (Polands); Hon. C. Fitzwilliam (La Flèche). *hc*, C. Sidgwick (Black Hamburghs); W. K. Patrick (Polands); Mrs. E. Cross (Crêve-Cœurs); J. J. Maldon (Crêve-Cœurs); J. Holt (Black Hamburghs); J. T. Ashley (Minorcas); J. Laming; J. K. Fowler (Crêve-Cœurs); H. Savile (Andalusians); J. S. Senior (Polands).

ORNAMENTAL BIRDS (Any breed).—1, J. Mayes (Gold Pheasants). 2, H. Savile (Silver Pheasants). *vhc*, J. K. Fowler (Kaleege Pheasants). *hc*, W. Woodhouse (Goldfinch Mules); G. E. Storr (King Parrot); J. Mayes (Silver Pheasants); W. Lamb (Java Sparrow); G. Clarke (Golden and Common Pheasants); Lord Manchlin (Assyrian Partridges). *c*, T. C. Harrison (Pintail Ducks).

TURKEYS (Any variety).—1, W. Sunday. 2, M. Kew (Cambridge). *hc*, J. B. Bides; Mrs. E. Harris (Cambridge); T. M. Derry (Cambridge).

DUCKS (Rouen).—1 and *c*, W. H. Robson. 2, L. Patton. *hc*, J. A. Clarke; J. K. Fowler; S. H. Stott; J. Wright.

DUCKS (Aylesbury).—1, Mrs. M. Seamone, Aylesbury. 2, J. K. Fowler. *hc*, W. Stonehouse.

DUCKS (Any other variety).—1, T. C. Harrison (Mandarins). 2, A. & J. P. Trickett (Carolinas). *hc*, H. Beldon; A. & J. P. Trickett (Porchards). *c*, T. C. Harrison (Carolinas); Mrs. Cross (Widgeon); S. & R. Ashton (Carolinas); J. H. Roper (Carolinas).

GEESE (Any variety).—1, J. K. Fowler. 2, E. Leech, Rochdale. *hc*, Rev. G. Hustler, Stillingfleet Vicarage, York (White and Grey Toulouse); J. T. Ashley; Mrs. Seamone; H. Savile (Sebastopol); S. H. Stott.

SELLING CLASS (Any variety).—1, T. M. Derry (Partridge Cochins). 2, J. K. Fowler (Aylesbury Ducks). *hc*, Mrs. J. Clarke (White Cochin); T. M. Derry (Partridge Cochin). *c*, J. A. Clarke (Rouen Ducks); G. Boyes (Black-breasted Game); Dr. D. C. Campbell (Dorkings); G. Clarke (Dorkings); J. Barnes (Game Bantams); *c*, A. Cole (Spanish).

SELLING CLASS.—1, W. K. Tickner (Gold-pencilled Hamburgh). 2, H. Beldon. *c*, S. S. Mossop (Black Bantams).

LOCAL PRIZES.—*Classes* 1, 3, 5, 7, 9, 11, 13, and 15.—Cup and 2, S. S. Mossop (Silver-spangled and Pencilled Hamburghs). 3, H. Snushall Spangled Hamburgh). *Classes* 2, 4, 6, 8, 10, 12, 14, and 16.—Cup, G. Clarke (Dorkings). 2, T. M. Derry (Partridge Cochin). 3, S. S. Mossop (Silver-spangled).

BANTAMS, OR ANY OTHER VARIETY.—Cup, 2, and S, S. S. Mossop (Black (Bantams and Polands).

PIGEONS.

CARRIERS (Black).—*Cock.*—1 and 2, R. Fulton, Deptford. *hc*, R. Fulton; F. Crossley, Elland. *Hen.*—1 and *hc*, F. Crossley. 2 and *c*, R. Fulton.

CARRIERS (Any other colour).—*Cock.*—Cup, J. C. Ord. 2, R. Fulton (Dun). *hc*, R. Fulton (Dun); T. H. Frean (Dun); F. Crossley (Dun). *Hen.*—1, R. Fulton. 2, J. C. Ord. *hc*, R. Fulton; J. C. Ord; F. Crossley (Dun).

POUTERS (Red or Blue).—*Cock.*—1, F. Crossley (Blue). 2, R. Fulton. *hc*, J. Taylor; R. Fulton. *Hen.*—1, 2, and *hc*, R. Fulton.

POUTERS (Any other colour).—*Cock.*—1 and 2, R. Fulton. *c*, J. Taylor; P. H. Jones, Fulham (Yellow). *Hen.*—1 and 2, R. Fulton. *hc*, W. R. Rose (White).

TUMBLERS (Almond).—Cup, T. Wiltshire. 2, R. Fulton. *hc*, J. H. Ivimy; R. Fulton. *c*, T. Wiltshire; J. Fielding.

TUMBLERS (Any other colour).—1, W. Woodhouse (Beard). 2, R. Fulton (Short-faced). *hc*, J. H. Ivimy (Yellow Agates); R. Fulton (Mottled and Red). *c*, F. Crossley.

JACOBINS.—1 and 2, R. Fulton. *hc*, G. South. *c*, E. E. M. Royds, Rochdale.

FANTAILS.—1, W. H. Tomlinson (White). 2, H. Yardley, Birmingham. *hc*, W. H. Tomlinson (White); J. Spence (Black); H. Yardley; T. C. & E. Newbitt, Epworth.

OWLS.—Cup, F. Crossley. 2, J. Fielding, Rochdale.

TURBITS.—1, P. H. Jones. 2, R. D. Borne, jun. (Blue). *hc*, O. E. Cresswell (Red); P. H. Jones; J. Fielding, jun. *c*, Hudson & Burnip (Red).

BARBS.—1, R. Fulton. 2, F. T. Wiltshire. *hc*, R. Fulton; F. Crossley. *c*, W. Massey.

DRAGOONS.—1, G. South. 2, H. Beldon. *hc*, T. Wiltshire; R. Fulton; T. H. Frean.

ANY OTHER DISTINCT VARIETY.—1, H. Yardley. 2, H. Draycott (Red Swallows). *hc*, H. Beldon; H. Yardley; H. Draycott (Frillbacks); J. Cox (Magpies). *c*, T. H. Frean (Silver-laced Fans and Magpies); Hudson and Burnip (Blue Magpies).

SELLING CLASS.—1, F. Clarke (White Jacobins). 2, E. Walker (Carriers). *hc*, H. Beldon; T. H. Frean (Fantails). *c*, E. Walker (Pouters); R. D. Borne, jun. (Sandy Antwerps); Mrs. Woodcock (White Trumpeters); J. C. Ord; S. & R. Ashton (Archangels); W. Massey (Carriers); R. F. Payling (Yellow Turbits).

RABBITS.—*Any Pure Breed.*—1, B. Hudson. 2, A. H. Easton (Lop-eared Tortoiseshell Doe). *hc*, S. G. Hudson (Silver-Grey Buck); J. J. Stott (Tortoiseshell Doe). *c*, S. Hardcastle; J. G. Quick (Lop-eared); C. King (Fawn Buck). *Heaviest.*—1, W. Kitchen. 2, W. Jeffray (Black and White Doe). *hc*, P. Booth (Sandy and White Doe). *c*, J. Pearson (Tortoiseshell Doe); H. Frith (Black and White Doe).

The Judges were—for *Poultry*, Mr. Edward Hewitt, of Birmingham; for *Pigeons*, Mr. Tegetmeier, of London; and for *Rabbits*, Mr. Massey, of Spalding.

CHELMSFORD POULTRY SHOW.

THIS Show, held on the 12th and 13th inst., was highly successful, there being upwards of 450 entries of poultry and Pigeons. Annexed is the prize list, but we must defer further details till next week.

DORKING (Coloured).—*Cockerel.*—1, L. Patton, Bishop's Hull. 2, J. Smith, Shillinglee, Petworth. 3, Dr. Campbell, Brentwood. *c*, Dr Campbell; H. Dowsett, Pleshey, Chelmsford; F. Parlett, Great Baddow. *Pullets.*—1, L. Patton. 2, Mrs. E. Wheatley, Ingatestone. 3, Dr. Campbell. *hc*, J. H. Roper, Barham, Claydon.

DORKING (Any other variety). — *Cockerel.* — 1, R. W. Richardson, Beverley, Yorkshire (Silver-Grey). 2, O. E. Cresswell, Hanworth, Hounslow. *Pullets.*—1, O. E. Cresswell. 2, Dr. Campbell (Silver-Grey). *hc*, C. Turner, Chelmsford (Silver-Grey).

GAME (Black-breasted and other Reds).—*Cockerel.*—1 and 2, Rev. F. Watson, Kelvedon, Essex (Brown-breasted Red). 3, W. C. Phillips, Worcester (Black-Red). *Pullets.*—1, S. Matthew, Stowmarket. 2, D. Ashworth, Halifax. 3, J. Jeken, Eltham, Kent. *hc*, Rev. F. Watson (Brown-breasted Red). *c*, J. Longbottom, Halifax.

GAME (Any other variety).—*Cockerel.*—1, T. Dyson, Halifax (Duckwing). 2, J. Brasington, Dresden, Stafford (Duckwing). 3, J. Wilson, Tenwhite, Illingworth Moor, near Halifax (Duckwing). *Pullets.*—1, S. Matthew. 2, W. H. Mitchell Moseley, Birmingham. 3, Barker & Charnock, Ovenden, Halifax (Duckwing). *c*, J. H. Dawes, Moseley Hall, Birmingham (Black).

COCHIN-CHINA (Buff).—*Cockerel.*—1, C. Sidgwick, Keighley. 2, J. Cattell, Birmingham. 3, W. Sandy, Radcliffe, Notts. *c*, J. H. Dawes. *Pullets.*—1, Mrs. Woodcock, Rearsby House, Leicester. 2, Mrs. Burrell, Ipswish. 3, C. Sidgwick. *hc*, F. W. Rust, Hastings. *c*, J. Cattell.

COCHIN-CHINA (Any other variety). — *Cockerel.* — 1, A. Williamson, Queniborough Hall, near Leicester (White). 2, J. K. Fowler, Aylesbury. 3, C. Sidgwick (Partridge). *Pullets.*—1, C. Sidgwick (Partridge). 2, A. Williamson (White). 3, J. Stephens, Walsall. *c*, J. K. Fowler.

SPANISH.—*Cockerel.*—1 and *c*, F. James, Peckham Rye, Surrey. 2, P. H. Jones, Fulham. *Pullets.*—1, W. Bacon, Brentwood. 2, J. Stephens. *hc*, F. James. *c*, P. H. Jones.

BRAHMA POOTRA (Dark).—*Cockerel.*—1, A. Hurt, Alderwasley, Derby. 2, Rev. J. Ellis, Bracknell, Berks. 3, C. Tindall, Ipswich. *hc*, Mrs. Burrell; H. Dowsett; R. M. Lord, Wolverhampton. *Pullets.*—1, Mrs. Woodcock. 2, A. Hurt. 3, Mrs. Burroll. *hc*, A. Hurt; H. Dowsett. *c*, C. Tindall; H. Dowsett.

BRAHMA POOTRA (Light).—*Cockerel.*—1 and Cup, Mrs. A. Williamson. 2, H. M. Maynard, Ryde, Isle of Wight. 3, Mrs. Astley, Tring. *hc*, F. Crook, Forest Hill; H. Dowsett. *c*, A. Herbert, Egham, Surrey; J. Paras, Postford, Guildford. *Pullets.*—1, F. Crook. 2, M. Leno, Markyate Street, Dunstable. 3, J. Pares. *hc*, A. Herbert. *c*, H. Dowsett.

HAMBURGH (Gold or Silver-pencilled).—*Cockerel.*—1, R. R. Parker, Ipswich (Golden). 2, H. Pickles, jun., Earby, Skipton. *c*, W. Tippler, Roxwell (Silver). *Pullets.*—1, H. Pickles, jun. 2, W. Tickner (Golden).

HAMBURGH (Gold or Silver-spangled).—*Cockerel.*—1, H. Pickles, jun. 2, C. Turner, Baddow House, Chelmsford (Silver). *Pullets.*—1, H. Pickles, jun. 2, C. Turner (Silver). *hc*, J. B. Bly, Lowestoft.

FRENCH.—*Cockerel.*—1, J. J. Malden, Biggleswade (Crêve-Cœur). 2 and *hc*, W. O. Quibell, Newark. 3, W. Tippler (Houdan). *c*, H. M. Maynard (Houdan); Mrs. M. Seamons, Hartwell, Aylesbury (Crêve-Cœur). *Pullets.*—1, J. J. Malden (Crêve-Cœur). 2, J. K. Fowler (Crêve-Cœur). 3, W. O. Quibell (Houdan). *hc*, H. M. Maynard (Houdan); W. O. Quibell (Houdan). *c*, R. B. Wood, Uttoxeter.

ANY OTHER DISTINCT VARIETY.—*Cockerel.*—1, J. K. Fowler (Japanese). *Pullets.*—1, J. K. Fowler (Japanese). 2, G. W. Boothby, Lowth (Golden Polands). *hc*, P. H. Jones.

GAME BANTAM (Black-breasted and other Reds).—*Cockerel.*—1, W. Adams, Ipswich (Black-breasted Red). 2, F. Steel, Stamp Cross, Halifax (Black-breasted Red). *hc*, J. W. Anns, Clapham (Black-breasted Red); Rev. E. S. Tiddeman, Childerditch Vicarage, Brentwood (Black-breasted Red); F. Steel (Black-breasted Red); W. Adams (Black-breasted Red). *c*, T. Fenn (Black-breasted Red). *Pullets.*—1, F. Steel (Black-breasted Red). 2, J. Longbottom (Black-breasted Red). *c*, J. W. Oates, Halifax (Black-breasted Red); T. Fenn, Ipswich (Black-breasted Red); Rev. E. S. Tiddeman (Black-breasted Red); W. Adams (Black-breasted Red).

GAME BANTAM (Any other variety).—*Cockerel.*—1, R. B. Riley, Halifax (Duckwing). 2, Mrs. Sheerman, Chelmsford. *Pullets.*—1, T. W. Anns (Duckwing Game). 2, Messrs. Bellingham & Gill, Woodfield Barnsley, Lancaster (File). *c*, R. B. Riley (Duckwing).

BANTAM (Any other variety except Game).—*Cockerel.*—1, M. Leno (Gold-laced). 2, S. & R. Ashton, Mottram, Cheshire (Black). *hc*, H. Draycott, Humberstone, near Leicester (Japanese). *c*, H. M. Maynard (Black); G. F. Hodson, North Petherton, near Bridgewater; H. Pickles, jun. (Black). *Pullets.*—1, M. Leno (Laced). 2, J. Walker, Halifax (Black). *hc*, G. F. Hodson (Gold-laced). *c*, H. M. Maynard (Black); J. Walker (Black); E. Cambridge, Bristol (Black).

DUCKS (Rouen).—1, Mrs. E. Wheatley. 2, S. H. Stott, Quarry Hill, Rochdale. 3, F. Parlett. *hc*, Miss A. L. Dowsett; J. K. Fowler.

DUCKS (Aylesbury).—1, Mrs. M. Seamons. 2 and 3, J. K. Fowler. *hc*, Mrs. Burrell; Mrs. M. Seamons. *c*, C. Havers, Ingatestone; S. H. Stott.

GEESE.—1, J. K. Fowler. 2, Mrs. M. Seamons. 3, W. Tippler. *hc*, P. R. Tippler; S. H. Stott.

TURKEYS.—*Poults.*—1, L. Patton. 2 and 3, Mrs. Mayhew.

SELLING CLASS (Any variety).—*Cockerels.*—1, Viscount Turnour, Petworth, Essex (Grey Dorkings). 2, C. Howard, Peckham (Spanish). 3, Mrs. Christie (Partridge Cochin). *hc*, Dr. Campbell (Dorking); C. Havers (Dorking); Mrs. Burrell, Stoke Park, Ipswich; J. Stephens, Walsall (Dorking). *c*, Rev. F. Watson (Brown-breasted Red Game); Barker & Charnock; Mrs. Tippler, Roxwell; F. W. Rust (Buff Cochin). *Pullets.*—1, J. Stephens. 2, Dr. Campbell (Dorking). 3, Mrs. Burrell. *hc*, G. S. Sainsbury, Devizes (Black Red Game). *c*, H. M. Maynard (Light Brahma and Houdans); J. Smith (Grey Dorking); Dr. Campbell (Dorking, Dark Brahma, and Dorking Hens); H. Dowsett (Dorking); Mrs. Christie, Glyndebourne, near Lewes.

DUCK.—1, — Telfar, Hatfield, Peverel. 2, Mrs. Burrell (Aylesbury). *c*, C. Havers; Mrs. Tippler (Aylesbury).

PIGEONS.

CARRIERS.—1, F. T. Wiltshire, West Croydon. 2, H. M. Maynard (Black). *hc*, F. W. Metcalfe, Cambridge; R. Fulton, Deptford. *c*, H. M. Maynard (Dun); J. C. Ord, Pimlico.

POUTERS.—1, R. Fulton. 2, P. H. Jones.

TUMBLERS.—1, R. Fulton. 2, F. T. Wiltshire. *hc*, J. M. Braid, Cambridge; R. Fulton.

JACOBINS.—1, A. A. Van Meersch, Forest Hill (Red). 2, H. M. Maynard (Red). *hc*, S. A. Wyllie, East Moulsey, Surrey.

FANTAILS.—1, J. F. Loversidge, Newark-on-Trent. 2, H. Yardley, Birmingham. *hc*, J. Walker, Newark, Notts; H. M. Maynard; P. H. Jones. *c*, Mrs. Paget, Horne Vicarage, Scole.

BARBS.—1, F. T. Wiltshire. 2, R. Fulton. *hc*, H. M. Maynard (Black); R. Fulton.

TRUMPETERS.—1, P. H. Jones. 2, E. Sheerman. *hc*, J. J. Hazell, Great Bromley; E. Sheerman. *c*, Mrs. Paget.

ANY OTHER VARIETY.—1, P. H. Jones (Turbits). 2, H. Draycott (Frillbacks). *hc*, Lady F. Bushby, Henleage, Kingston Hill (Blue Runts); S. A. Wyllie (Ice); Mrs. Paget (Owls and Ice). *c*, S. A. Wyllie (Runts).

JUDGES.—E. Hewitt, Esq., Sparkbrook, Birmingham, and W. B. Tegetmeier, Esq., Muswell Hill, London.

WETHERBY POULTRY SHOW.

THIS Show was held on October 1st, and in most respects was a success. The *Geese* and *Turkeys* were large and good, and the *Spanish*, especially the chickens, very fine. The *Dorkings* were, however, the leading feature of the Show, and were all that could be desired as regards size, colour, and quality. *Game* were poor. The winning *Hamburghs* were better. Some very good *La Flèche* and *Crève-Cœurs* were shown; also Golden-laced and Black *Bantams*, though the Game were not quite so high in quality. There was a handsome pair of White Angora *Rabbits*.

COCHINS.—1, W. & F. Pickard, Thorner. *Chickens.*—1, G. Duffield, Thorner.

SPANISH.—1, W. & F. Pickard. *Chickens.*—1, W. & F. Pickard. *hc*, J. Cook, Bishop Wilton.

DORKINGS.—1, T. E. Kell, Wetherby. 2, O. A. Young, Driffield. *hc*, T. E. Kell. *Chickens*—1, 2, 3, and *hc*, T. E. Kell.

GAME.—1, J. Watson, Knaresborough. 2, T. Hawkes, Hunsingore. *hc*, E. Birkenshaw, Wetherby. *Chickens.*—1, J. Walker. 2, T. Hawkes. *c*, T. Ridsdale, Kirkby Overblow.

POLANDS.—1, T. Crossley, jun. *Chickens.*—1, W. & F. Pickard.

HAMBURGHS (Golden).—1, J. Walker. *Chickens.*—1, J. Walker. 2, J. Margerison, Collingham. *Silver.*—1, J. Walker.

HAMBURGHS (Pencilled).—1, O. A. Young. *Chickens.*—1, J. Walker.

BARNDOOR OR CROSSBREED.—1, O. A. Young. 2, Mrs. Gunter. *Chickens.*—1, Mrs. Gunter.

ANY OTHER DISTINCT BREED.—1, J. Walker (Black Hamburghs). 2, J. Dyson, Wetherby. *Chickens.*—1 and 2, Mrs. Price, Aberford (La Flèche and Crève-Cœur).

BANTAMS.—*Silver or Gold-laced.*—1, O. A. Young. *Black.*—1, J. Walker, Haya Park. *Any other Variety.*—1, T. C. Taylor, Ontlands. 2, J. Walker (Game). *Chickens.*—1 J. C. Taylor. 2, O. A. Young.

GEESE.—1 and *hc*, Lord Wenlock. 2, O. A. Young. *c*, J. Simpson, Spofforth Park.

DUCKS.—1, Mrs T. E. Kell (Carolina). 2, W. Burley, Wetherby. *Ducklings.*—1, O. A. Young.

TURKEYS.—1, O. A. Young. 2, Mrs. Gunter.

The Judge was Mr. E. Hutton, Pudsey, Leeds.

RABBITS AND THEIR JUDGES.

MR. JAMES DIXON, in your last number, takes me to task for certain remarks I had made on the so-called judging of Rabbits at the Whitby Show; but at the same time, knowing that I was only "*one of many* witnesses," he discreetly takes care not to deny one single statement I advanced. He has done something easier—he has replied illogically and transparently evasively.

Take Mr Dixon's first remark. He quotes the following words of mine quite correctly—"The Judges positively got through (I do not say judged), twenty-one Rabbits in a trifle short of two minutes," and then he immediately adds, "instead of there being twenty-one pens, there were only eleven. Fourteen pens were entered, and three, I think, were empty." Now, if this is not creating a General on purpose to kill him, I do not know what is. Mark this—I said nothing about pens, even according to his own quotation of my words. I said twenty-one Rabbits, and this I adhere to, and yet Mr. Dixon would lead any hasty reader to suppose I had made a gross mis-statement. Many of the pens held pairs (which I mentioned with disapproval in another part of that letter); but I suppose even Mr. Dixon will not deny that he has to judge of each individual Rabbit before he decides which two make the best pair, so that my charge that the Judges got through twenty-one Rabbits in the preposterously short time of less than two minutes remains unshaken. For, be it observed, he does not deny that I am right as to time. Mr. Dixon simply wants to convey the impression to your readers that he only had eleven Rabbits to judge, and therefore that the time was sufficient, though he would fail to make any Rabbit-fancier believe in such an absurdity.

Further on, Mr. Dixon makes a remark which I had to read three times over before I could believe my eyes. He says, "Had there been a large entry, of course we should have measured them." I verily had always thought it to be the manifest duty of a judge to conscientiously balance the merits of the specimens submitted to him, let them be few or many, and, indeed, any plain man would say it was all the more inexcusable if there were few not to devote the necessary time, and use the necessary means to ascertain which was best, as the task would be so much lighter. If this is to be understood as the doctrine of the Judges, they will soon lessen the entries with a vengeance.

Mr. Dixon remarks, "He does not say that the prize was not given to the best Rabbit, but that we certainly did not know, and as clearly did not care. These remarks are quite uncalled for, unless he could show that we had erred in judging, which I am quite sure we did not." In answer to this, I would say that I had no narrow views in writing that letter, but took the matter up in justice to the fancy generally. As, however, Mr. Dixon makes the assertion that the Judges did NOT err in judging, I meet that bare assertion with a flat contradiction, supported as I was in my opinion by nearly a dozen experienced Rabbit fanciers, some of whom had often been judges themselves, and among whom there was not the least difference of opinion as to which was the best Rabbit, and we had spent an hour among the Rabbits before the Judges came round to spend their less than two minutes. The Rabbit pronounced best at Whitby was at Long Sutton last Wednesday (Oct. 6), but took no prize, while the one coming second at Whitby took first at Sutton, as "Best of any breed;" but the Committee there had very properly engaged a special judge for Rabbits. If, however, Mr. Dixon and his colleague will endeavour to have the two Rabbits brought together and judged by two real Rabbit judges unknown to either of us (as might possibly be feasible at Leeds or York, next December), I will gladly, if proved to be in the wrong, pass £5 through your hands to any charity that you may think most deserving of support.—ONE OF MANY WITNESSES.

SPURIOUS HONEY AND FRAUDULENT BEE-KEEPERS.

SOME time ago a correspondent asserted in your columns that the Stewarton hive produced the finest honey in the world, an assertion rather too extravagant for your intelligent readers, for they well know that neither the shape nor material of a hive can improve the quality of the honey it may contain. I am not in this letter going to say one word for or against the Stewarton hive; I wish merely to lift my voice against a fraudulent practice of some bee-keepers in Scotland, and perhaps some in England too.

A few days ago there came from Glasgow to Manchester three Stewarton hives, supers full of beautiful comb—doubtless the gift of some gentleman in Glasgow to three of his friends here. It was my good luck to taste the honey or syrup those supers contained; I say syrup, for it was nothing more nor less than sugar and water which had been given to the bees and stored up by them. I remember some honest bee-keepers in Lanarkshire, some years ago, expressing their wonder to me how the Ayrshire men managed to send to the Glasgow market so

early in the season those shallow boxes of honeycomb which they saw offered for sale in the shops. They never dreamt that the simple process of mixing sugar and water left them so far behind; I could not understand it myself till I tasted the honey mentioned above. Sugar costs 4½*d.* per lb. and requires 1 lb. of water to make good syrup for bees, thus the syrup costs about 2¾*d.* per lb. How much weight is lost in the manufacture of comb I cannot accurately say, neither can I tell what price the manufactured comb sells at; doubtless there is considerable profit. It matters not to me whether 6*d.* or 1*s.* 4*d.* per lb. he realised; but unhesitatingly do I condemn the practice as dishonest, for sweetened water never becomes honey, even though it be twice swallowed and disgorged by bees. It is dishonest to knock a man down with a view to steal his purse; it is as dishonest to take the purse without the knock-down, and the trick of selling syrup for honey is equally dishonest, unless the buyer be told that the honeycomb is spurious, or artificially made. If the trick be not exposed, and the practice put an end to, the day will soon come when it will be difficult to sell genuine honey and honeycomb. I shall be glad if the honey merchants of Glasgow see these remarks, and taste the honey in the comb before they venture to purchase it; and judges of honeycomb at the agricultural shows would do well to taste the honey before they award the prizes. One bee-keeper crossed the border to a northern English town, and for three or four years in succession carried back the prizes given for honeycomb. He told a friend, who told me, that sugar and water enabled him to win the prizes.

It does not follow that, though some of the Stewarton hives are made use of for purposes of deception, all are. Doubtless many of the Ayrshire bee-keepers use them honestly and well for the collection of pure and unadulterated honey.—A. Pettigrew, *Rusholme, Manchester.*

MANAGEMENT OF BEES.

I am puzzled at the statements relative to the treatment of bees, from which, until enlightened as to the line of procedure, we should imagine they were as harmless as flies and did not possess stings, whereas they are very pugnacious and not to be trifled with. One is surprised to learn that the interior of hives is examined, queen bees taken out, other queens put into the hive, combs that are cracked made straight, part of the honey taken out, and bees transferred from one hive to another, without any apparent difficulty. One person asserted that in October he removed the bees from a hive full of honey to an empty hive, took all the honey (not fair dealing), and fed the bees with sugar and water, from which they soon stocked the hive with combs and honey; but he does not say how he effected the transfer of the bees from hive to hive. I have been told that bees will not by driving be made to quit a hive filled with honey for one which has none. I wish to remove the bees of one hive into another which has numerous improvements, and should be obliged if yourself, or any of your correspondents, will kindly inform me the best way of doing this. I presume if the comb and honey taken from the one hive is put upon the floor-board of that into which the bees have been removed, it will greatly aid them in stocking the hive.—Inquirer.

[A skilled bee-master does with the aid of frame hives, really treat his bees pretty nearly as if they were as harmless as flies, and you are by no means the first who has been puzzled as to how it is done. Example is in these cases so much more effectual than precept, that if you will send us your address we will endeavour to introduce you to the nearest master of the art with whom we happen to be acquainted, and would advise your not grudging a moderate journey in order to witness his manipulations. In the meantime, we reprint the following advice given by Mr. Woodbury in reply to a correspondent who, in 1862, found his bees like your own, very pugnacious and not to be trifled with. "'A. W. B.' does not appear to have done so much amiss for a first attempt. He obtained what he wanted, which is a great point, but he appears to have mortally offended his bees. Had the matter been managed more adroitly they would have manifested a much more forgiving spirit. Let him by all means envelope himself in a bee-dress, and arm himself with his lighted fumigator; but in mercy to himself and his bees exchange his buckskin for indiarubber gloves, such as are worn by photographers, and take with him a sop for Cerberus in the shape of some sweetened water. Commence proceedings by slightly raising the crown-board at the back, and blowing under it two or three good whiffs of smoke; then close it down, and wait a minute or two while the bees are filling themselves with honey. Next lift it boldly off, and stand it safely on one side, so as not to crush any bees which may adhere to it, and liberally sprinkle the interstices between the exposed bars with sweetened water. Should the bees take this in good part without commencing an attack the operation may be at once proceeded with; but if their pugnacity be not quite subdued a second subsidy of sweets should be accorded them, and the crown-board replaced for a few minutes to give time for their acceptance of the proffered bribe. All these manipulations are based upon the fact that when bees are alarmed they immediately fill themselves with honey, or such other sweets as may be at hand, and that if we can once induce them to do this they become as inoffensive as house flies. No provocation short of absolute crushing will induce them to sting." There is no difficulty whatever in driving bees from a full hive into an empty one in the manner described in page 60 of the last edition of "Bee-keeping for the Many;" but it would be a miserably bungling attempt at assisting them if you placed the contents of their old domicile higgledy-piggledy on the floor-board of their new one. A satisfactory transfer can in point of fact scarcely be effected except into a frame hive in the manner described in page 72 of our present volume. If, therefore, frames are not among the numerous improvements appertaining to your new hive, we should advise its remaining unoccupied until it can be stocked by a swarm in the usual manner.]

OUR LETTER BOX.

Chickens not Thriving (*Norice*).—As a rule, this is the time of year when fowls require watching, and when a little alteration in food by way of stimulant is very beneficial; but it has been so warm, that such treatment would be superfluous. Are they in a damp place? Is the diminution of the hours of sunshine felt? We advise you to do away with the buckwheat, the sharps, and the potatoes. The latter may be given as a change and a help at times, but to adopt them as regular food is neither profitable to you nor wholesome for the birds. Give them some bread steeped in strong beer. When a bird seems to become worse, remove it from the others, and give it some pills of camphor, two for a dose, each the size of a pea. Give them lettuce whenever you can, cabbage when you have nothing else to give; but they will not eat lawn mowings, and they only make a mess in the pens. Quadrupeds will eat them, but fowls will only eat them when they can pick them, and they cannot pick them save when growing.

Middleton Snow.—The first prize for a Black Hamburgh cockerel, we are informed, was awarded to Messrs. Mason & Walker, and not to Mr. Charles Sidgwick.

Points of Silver Duckwinged Game Fowls (*G. D.*).—The Silver Duckwing must have no brown patch on the wings, and the feathers that are straw-coloured in the ordinary Duckwings, must be pure white in the Silvers. The hen must have no robin or wheaten breast.

Food Needed by Fowls (*H. T.*).—You do not know yourself the quantity of food the fowls gather, and we cannot, in the absence of such information, give any other than a general answer to your question. You must be guided by their consumption and feed accordingly. In warm weather like this they obtain much food from the surface of the earth. In very dry, cold, and frosty weather they find little or nothing. Now the food may be decreased, then it must be increased. The best food to give is barley, but in hard weather it is necessary to substitute Indian corn, as the small birds steal the barley. They cannot swallow the Indian corn. The best quality of food is always the cheapest, and there is none so dear as the indifferent samples that cost less money

Furnace Game Fowls (*A Subscriber*).—There are no other points that differ from any other breed of Game but the colour. You will find that in all the poultry books.

How to Distinguish a Gander (*E. R. P.*).—We have great faith in the opinions of old women when the sex of Geese is in question. They say that if Geese are put in a pigstye, shed, or other confined place, and a dog is thrown in to them, the Geese will raise their heads and withdraw, the gander will drop his head, stretch out his neck, and hiss at the dog. Others say the bag that hangs between the legs is double in the gander, single in the Goose. Some say the neck of the male is thicker and clumsier than that of the female. The sure and infallible way is to examine the bird by handling, there can then be no doubt. Pressure below the vent will reveal the sex.

Points in Partridge Cochins (*Colpe*).—The points of Partridge Cochins are the same as in others, except that the colour is different. The comb should be medium-sized, well serrated with numerous serrations, and scrupulously straight. The danger of a large comb is, that it is almost always crooked. The less yellow tinge there is in the plumage of these birds the better it is; they are prone to this defect. The cock must have a thoroughly black breast. Any mixture of buff is a disqualification.

Crève-Cœurs' Feet Distorted (*Idem*).—The Crève-Cœurs would not be disqualified, and it would only be disadvantageous in very close competition.

Weak Swarms and Stocks (*A. Crowley*).—The bees are certainly worth saving, and it will tend to prevent confusion if you unite the inhabitants of adjoining stocks. The union should be effected by driving both colonies into an empty hive, and afterwards inducting them into the domicile which they are intended permanently to occupy, as stated in reply to "M. J. V." in page 218.

Proverb (*Gallus*).—The proverb you refer to is probably the following, indicating that young specimens of the animals mentioned are preferable for table.—"Chickens chirping, Pigeons peeping, Rabbits creeping, are best eating."

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 21—27, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years. Days.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises. m. h.	Moon Sets. m. h.	Moon's Age. Days.	Clock after Sun. m. s.	Day of Year.
21	Th		58 3	39.8	49.1	18	34 af 6	54 af 4	48 af 5	3 af 7	16	15 20	294
22	F		58.9	42.7	50.8	23	36 6	52 4	14 6	9 8	17	15 29	295
23	S		58.2	39.9	49.1	22	38 6	50 4	42 6	16 9	18	15 38	296
24	Sun	22 Sunday after Trinity.	56.3	39.5	47.9	19	40 6	47 4	17 7	20 10	19	15 45	297
25	M		55.8	38.4	47.1	20	42 6	45 4	59 7	22 11	20	15 52	298
26	Tu		55.7	36.8	46.2	18	44 6	43 4	52 8	after.	21	15 58	299
27	W		54.9	38.7	46.8	27	46 6	41 4	53 9	9 1	22	16 4	300

From observations taken near London during the last forty-two years, the average day temperature of the week is 56.9°; and its night temperatnre 39.4°. The greatest heat was 69°, on the 22nd, 1863 and the lowest cold 17°, on the 23rd, 1859. The greatest fall of rain was 0.96 inch.

VERBENA VENOSA, AND HOW TO PROPAGATE IT.

WITH all that Mr. Robson states respecting Verbena venosa I fully agree. It is a most useful and effective bedding plant, and, in my opinion, is the only Verbena worth the trouble of growing for bedding purposes. It endures all sorts of rough weather without being in the least tarnished, and retains its colour to the end of the season when beds of all other Verbenas are blanks. I have often, for I have grown it for more than twenty years, wondered why it is so seldom to be seen. The reason, no doubt, is the supposed difficulty in propagating it in sufficient numbers; and Mr. Robson's statement that not more that one in a thousand will strike, if treated in the same way as other sorts of Verbenas, proves that I am not far wrong in thinking so.

Here we have not the least difficulty in striking it from cuttings, either in the autumn or in spring; but there is another mode of propagating it which I sometimes adopt, and that is by cuttings of the roots. When I take up the old plants I carefully save the long roots—sometimes 2 feet long—which run just under the surface, take cuttings 3 inches long from their points, and insert them round the edge of the pot in the usual way; they are kept in a cold frame all winter, and in February or March placed in the striking pit or frame, where they will soon commence growing, and they make strong plants by turning-out time. The old plants may, instead, remain in the beds until March, and cuttings may be taken off then, and placed in heat at once.

Another method is to cut the roots in pieces with two joints, lay them thickly on the soil in pots, covering them half an inch. They will soon root if placed in heat, and will throw up shoots from every joint.

To obtain a number of plants, principally to take cuttings from in the summer, I always sow a pan or two of seed in spring, and when the seedlings are strong enough I prick them into 2½-inch pots, and keep them under glass till June, when they are shifted into 3-inch pots. By the middle of August they are fine, strong, bushy plants, and from them I take my cuttings, instead of from the beds, which produce cuttings very sparingly. I have at the present time a number of pots of cuttings put in during August and September in a cold close frame; all are struck and growing freely, without, I believe, a single failure.—John Greenshields, *The Gardens, Sarsden.*

TREATMENT OF YOUNG VINES—GOLDEN CHAMPION GRAPE.

I think the complaint of this Vine not doing at present what was expected is owing to what Mr. Thomas Record observes in page 241—it has been exhausted by excessive propagation.

Might I call the attention of the readers of "our Journal" to the treatment I have adopted for all new Vines I purchase from a nursery, and I never yet failed? I turn out the Vine from the pot; if the roots seem in a good condition I repot into pots two sizes larger, using plenty of broken oyster shells and bone dust, with any kind of light sandy garden soil, and grow the Vine in a greenhouse with plenty of air one season. This will restore the lost constitution of the plant, fit the latter to be planted in a vinery, and make a fine Vine, producing better fruit than one planted at once in a vinery as received from a nursery. Should the roots not appear all in good order, carefully take away the soil, and if not full of life wash them, and cut away the bad parts before potting. I should adopt this method rather than inarch a Vine out of health, be the stock what it might.

In striking Vine eyes for my own use I use no heat, but place them in pots in the Vine house; few fail, while if I put in the eyes of any new Vine which I obtain from a nursery there is seldom an eye that grows. Does not this prove the vitality is exhausted—dead to a certain degree? And this is brought about by the constant excitement used by nurserymen to produce plants. Again, eyes can be taken to produce fruitful Vines, and others which are unfruitful from the first—*i. e.*, would not produce fruit soon in a small state.

Some twenty years ago I planted some eyes of the Early White Malvasia, Kienzheim, or Grove End Sweetwater, known in Sussex as Lashmer's Seedling. I give all the names by which I know it. The eyes from a fine robust Vine, taken from spurs that produced fine Grapes, proved very prolific; while those eyes taken from fine strong canes which did not bear, were 30 per cent. inferior in producing Grapes.

Referring to the article I wrote on "Grafting Vines to Promote Hardiness" (page 219), permit me to say some of the Grapes will be sent for inspection to the Fruit Committee of the Royal Horticultural Society, and I trust the readers of "our Journal" will excuse my answering letters by post. My business requires all my time, but, on the other hand, what I have observed during twenty-five years of Vine cultivation shall be communicated in the pages of "our Journal."—R. M. W., *Mount Pisgah, near Sheffield.*

[You are quite right not to answer letters privately. Those who write to our correspondents in defiance of the request to the contrary we publish weekly, must have a very weak notion of propriety, and no thought except for their own convenience.—Eds.]

AUTUMN RAMBLES.

Everybody is on the move in autumn; some for pleasure, some for business, some because they have nothing better to do, and not a few because others, from whom they cannot break away, will go. So I but followed the general fashion when last month I wandered away from my quiet vicarage for a fortnight's run; mine was one of business—real, honest business. But then I have ever a fancy for lightening the work by a little recreation, and while others would be content to rest quietly after the work they had in hand was done, I am for a ramble off

to some garden in the neighbourhood, where I am always sure to hear and learn something which may be of advantage not only to myself, but perhaps, through "the Journal," to others also; and although when I sit down at night I feel perhaps a leetle bit tired, yet I know that it is a fatigue not without service to myself and others. Amongst the places visited during the fortnight was the old city of Norwich, a bustling, thriving place, very different from the dull drowsiness that generally characterises cathedral cities; very different from Canterbury, Ely, Rochester, Winchester, &c., where all the life there is seems so respectable and solemn, that nobody is ever in a bustle, and the very rooks in the close caw as if they thought they ought not to be like their noisy, racketty brethren elsewhere. In Norwich, on the other hand, all is life: "its merchants are princes," its streets are ever busy, and in the neighbourhood you see marks of what all this has achieved in the evidently well-kept seats, whither the more eminent citizens resort after the day's toil is over. Three of these residences I visited, each different in character, but all of them very interesting, as evidencing that wide-spread interest in horticulture that so characterises us as a people, and that, I believe, to an extent not equalled by any other European nation.

My first visit was paid to

J. J. COLMAN, ESQ., CARROW HOUSE,

on the banks of the river Wensum, and in the immediate vicinity of those extensive factories which are known all over the world. The house is situated on the side of the road, and one does not gain at first sight any idea of the beauty of the place or the extent of the grounds; but the moment you enter you perceive at once that you are at the residence of one of those men of wealth who delight in spending, not in hoarding; and in this instance exquisite taste, which is not always the case, has ministered to the expenditure. From the back windows of the sitting-rooms you gain a pretty view of the pleasure grounds and the country beyond, with the river winding pleasantly through it, the house being situated on rising ground. The garden is immediately underneath. The beds are cut out of the grass, and are neither too numerous nor too large, and notwithstanding the trying season they were all in good condition, save the yellow Calceolaria, which here disappoints, as it does in most places, and will have to give way for Golden Feather Pyrethrum, or some other yellow bedding plant. From this the ground again rises, and you catch a sight on the opposite eminence of another smaller arrangement of beds, among which one of Coleus Verschaffelti shone brilliantly. On the left-hand side is a range of vineries with a centre house for plants. In some of these the Grapes had already been cut. Muscats of Alexandria were in full size, though not then coloured sufficiently, and Black Alicante was very good. The borders seemed to have been recently renewed, and round them outside ran a row of Perilla nankinensis.

From this pleasure ground, which comprises about two acres, you pass a little to the left to the kitchen and fruit gardens; though here, as in a good many places, flowers encroach upon kitchen ground, and the *dulce* as well as the *utile* are mingled together. There are glass structures here as well, one of them an orchard house; but when I asked the gardener about it he shook his head, and did not seem to value it very much, although it was capable of being heated. Both fruit and vegetables seemed to be in very good condition, except, of course, the wall fruit, which here, as everywhere this season, was a total failure.

But after all my greatest treat was perhaps the last, for on returning from the kitchen garden my eyes rested in a north border on as fine a collection of Auriculas as I have seen in any private grower's hands for a long time. The plants were good and in fine condition, and all the leading varieties were to be found in goodly numbers. To me they were full of interest. The Auricula was one of my earliest loves (Lothario that I am to speak of one!) and the very coyness she displays, the care she requires, the manner in which she repudiates all neglect, tend to give her a very warm place in one's heart. Chrysanthemums, Roses, Pinks, &c., are here all cultivated; for although Mr. Colman rejoices in his parterres and his houses, he does not, like a good many, snub the florists' flowers. I wish there were many more like him to protect one's favourites. The grounds altogether comprise about four acres, and seldom have I seen gardens better disposed or more abundantly stocked.

When I said Mr. Colman was one of those who spend and do not hoard, I did not mean that he spent all on himself. Witness the schools close by built by the firm, and intended solely for the children of the workpeople. Their numbers may be estimated by the fact that there are from 300 to 350 of their children in the day schools. The education is not gratuitous, but the sum paid weekly is returned to the children in the shape of prizes every half year, the teacher being paid entirely by the firm. It is a noble instance of that large-hearted charity which distinguishes so many of our wealthy merchants. Would that it were universal!

My pen has run on, and I must reserve notices of the other two places for another week, only adding that anyone visiting Norwich would do well to pay this garden a visit, and I am sure he will meet with a courteous reception.—D., *Deal.*

MEMORIAL TO MR. JAMES VEITCH.

HAVING had a visit to-day from a few gardening friends, just as your Journal arrived, we discussed the suggestion of Mr. Thomson, respecting a memorial to the late Mr. James Veitch. Our opinions agreed that something should be done to perpetuate the memory of this lamented horticulturist, and after considering the contents of Mr. Thomson's letter, choice fell upon the latter suggestion of his, and which we are glad to see is so favourably taken up by you. Such a form of showing respect, and doing honour to the memory of this energetic man, would annually stir up the spirit of enthusiasm in all those who are working for the good of horticulture. But why not place a suitable monument over his grave also? The respect of his personal acquaintances would be best shown in that way; but whichever way it is done, I shall be most willing to assist in the good work, if needed.—THOS. RECORD, *Lillesden Gardens, Hawkhurst.*

[If the funds subscribed be sufficient to provide a suitable monument, as well as an annual prize medal, there could be no objection to carrying out both suggestions. This, however, must be left to the decision of the Committee to be formed for realising the suggestion.—EDS.]

SEEDLING ROSES.

THE autumn of 1868 was most propitious for the ripening of Rose hips. I never remember having seen so large a crop on Hybrid Perpetual Roses. All the fine varieties, such as Charles Lefebvre, Duke of Wellington, Lord Clyde, Xavier Olibo, Alfred Colomb, Duc de Rohan, Lord Macaulay, Jules Margottin, Louise Peyronny, Madame Clémence Joigneaux, Madame Alfred de Rougemont, and even that very double Rose Madame Vidot, with a host of others, bore a crop of well-ripened hips.

I am induced to record the effect of that remarkable and almost tropical summer, as it may be many years before its like be again seen, and also to note the most successful mode of treating Rose hips, so that a crop of seedlings may be insured. Last year, in the month of October, about two bushels of hips were gathered here from the most choice sorts of Hybrid Perpetuals; they were at once placed thinly on mats in a vinery, and fully exposed to the sun. This treatment seemed to ripen them thoroughly, for by the end of the year the seeds seemed filled with their white kernels firm as a nut. In January the hips were all crushed with the fingers by boys, the husks partially removed, and the seeds mixed with sand rather moist, and still kept in the vinery. In March they were sown in drills crosswise on a spent hotbed of the previous season, the surface mould, about 6 inches in depth, being formed of light loam and old cocoa-nut fibre. About the end of April the young plants made their appearance so thickly as to look more like a crop of Mustard than Roses. They had no sooner shown themselves than a host of birds, thinking them, I suppose, delicate morsels, attacked them, and would soon have devoured them all. They had a feast of some thousands before their attack on them—only one day—was discovered. The young plants were at once made safe by netting.

About the end of May, the plants, having made their rough leaves, were transplanted into beds raised above the surface with leaves and litter, so as to give a gentle heat; and on these beds a coat of loam and decomposed manure was placed, in which the little fellows were planted, some short grass from the lawn being strewed on the surface to keep it cool. The weather was cloudy, and no shading was required; but few failed, and some hundreds when not more than 4 inches high put forth a blossom, so that one could almost fancy the Rose an annual instead of a long-lived shrub. It was curious to

observe that all these prompt-blooming seedlings produced double flowers of all shades of colour and very interesting. This is, however, reckoned not a good harbinger, as they seldom prove robust-growing, or give in after seasons flowers of a fine character. In the month of July the seedlings were severely attacked with white mildew, which, if it had not been arrested by copious dressings of soot, would have destroyed them all. When transplanted they were computed at twenty thousand, rather more than less. Many of the weak growers have "gone to the wall," but plenty are left.

I have many years since given my method of treating Rose hips, but have thought it would be interesting at the present day to repeat it, as many young Rose-growers may not be aware how easily Roses are raised from seed. Seedling Roses are always full of interest, for although not one in a thousand may be worthy of a name, so numerous and good are our varieties, yet as no two are likely to resemble each other, they keep alive a pleasant hopeful feeling.—T. Rivers.

LATE GRAPES.

Seeing your reply last week (page 311), on late Grapes for a vinery, and among those recommended, Mrs. Pince, I beg to state I purchased a guinea plant when it was first sent out; it is now a good strong Vine. I had twelve bunches on it this season. I have not one perfectly-set bunch in the twelve, not much more than the half of the berries perfect, the other small seedless berries. I do not condemn the Grape, for I hear of some having it good, but if it do the same next year I am resolved to do away with it.

The Editors say they regret they cannot recommend a better light Grape than Trebbiano. I confess we are very short of good late white or golden-coloured sorts forming to Lady Downe's fitting companions. There is Thomson's new White Lady Downe's. I saw good-formed bunches of it at the International Show at Edinburgh, but could not speak of or against its merits; but there is another seedling from Lady Downe's raised by Mr. Melville, at Dalmeny Park, which was exhibited at the Edinburgh Show, and highly thought of by many, but, singular to say, repudiated in the south. It is called Melville's Golden Prince. I have been eye-witness to the growing and habit of this Grape, and believe it will prove the most fitting companion to the Lady Downe's of any Grape yet raised. It will undoubtedly be very much larger in the bunch than Lady Downe's, as it shoulders well, and apparently will hang as well. It has a firm flesh no doubt; but where shall we find a late-hanging Grape without? The Golden Prince is a much finer-flavoured Grape than the Lady Downe's, having a distinct Muscat flavour, the Muscat being one of its parents.—William Bibrell.

THE LARVA OF THE COCKCHAFER, THE "VER BLANC" OF THE FRENCH.

I see in the Journal of last week that your correspondent "Y. B. A. Z." says it is a matter of question whether this pest lives on the roots of grass or on the earth itself. I never heard that it was a question, but I can give pretty positive proof that it is not an earth-feeder. Some years ago, when I was at Versailles with my friend Mr. Standish, we saw whole quarters of Wellingtonias destroyed by this abominable pest. M. Remond, in whose nursery they were, pulled up one or two, and the bark was gnawed off all round. This year I was in the garden of M. Jamin at Bourg-la-Reine. Quantities of his Strawberries were dying, and in clearing away the earth the marauder was found, having cut right through; while, at Fontainebleau, my friend M. Souchet was obliged in his new garden, where he wished to grow Rhododendrons, to dig the soil completely out and make a regular fortification round, so as to keep out the intruders, for they gnawed through the roots, and indeed frequently destroyed good-sized shrubs. Indeed, we might *à priori* argue that it was so, for what else are those strong mandibles for?—not, we may be sure, for eating earth.

The rook is our great friend in destroying these pests. In this neighbourhood they used to be very abundant, the Maple trees being completely stripped by them; but since the great increase of rooks at Eastwell Park and other places in the neighbourhood, they have greatly decreased; so that, notwithstanding that "keeping rooks," as the small boys call their occupation in spring, may be an expense to the farmer, they are his true friends, destroying numbers of these grubs. The larvæ of the Tipulidæ have been very numerous this season, destroying our Lettuces, Cabbages, and Endive. There is no remedy for them but hand-picking, I believe.—D., *Deal.*

GYMNOSTACHYUM PEARCEI AND VERSCHAFFELTI.

Of the many lovely plants introduced of late years, no two are more worthy of notice than these. I have found them invaluable both for the decoration of the stove and the dinner-table.

During the summer I have visited several large gardens, and I was very pleased to hear how highly they were spoken of, and to see such care bestowed on them. The foliage is so exquisitely marked with a thick crimson network, and they can be so easily grown, that when they become known they will be universal favourites.

I grow my plants in large pans with plenty of coarse charcoal for drainage; soil, peat, silver sand, and cocoa-nut fibre refuse, with a little charcoal mixed. In this they succeed admirably, and very quickly make large plants. The flowers, also, are very pretty. A valuable property is, that they succeed well in baskets of my own construction. I suspended one here and there about my stove. A few weeks ago whilst shewing a gentleman round, he said he had never seen Gymnostachynm Verschaffelti grown in baskets before, and that the colour was more distinct than in plants grown in pans. He said every leaf was a complete bonquet.

G. Pearcei is the coarser species, having a tendency to grow more upright than G. Verschaffelti, and the colour of the leaves is very deep. G. Verschaffelti has succeeded the better of the two with me in baskets; the foliage is more closely veined, but both are gems, and attract the eye directly one comes near them. Their appearance is very chaste and beautiful.—F. P. L.

GARDENS IN EAST KENT.—SYNDALL PARK,

The Seat of W. Hall, Esq.

The picturesque county of Kent, with its range of chalk hills, in some parts overlooking the wide-spreading and undulating surface of the fertile weald, and at others rising into precipices, washed by the murmuring surge, offers a rich and varied scenery, of whose beauties the eye never tires. The northern slopes of these hills are in many parts intersected by valleys, which run onwards till they gradually open out into the low-lying marshes that bound the greater part of the north coast of Kent.

One of these valleys or dales forms the western boundary of Syndall Park. From this dale the park rises somewhat abruptly to a considerable elevation, on which are the mansion and principal gardens. It is probably owing to the fact that the most important fronts of the mansion face the south, east, and north, that no part of this sunny western slope is included in the dressed grounds.

The gardens, in which great alterations and improvements have been effected during the last few years, consist of three distinct and separate parts—the glass houses or forcing garden; the pleasure grounds, consisting of lawns, terraces, and flower garden; and the kitchen and fruit gardens. A slight sketch of each department will be offered in the order in which they are named.

The forcing garden may be described as a parallelogram extending from west to east, with the houses facing the south; it is so completely enclosed by a wall as to be quite shut off from the ornamental grounds, to which it is very near. A hip-roofed range 280 feet long by 15 feet wide, is the chief feature here. The formality of its surroundings prevents its being viewed externally from an ornamental point of view, but for general utility and fitness for the purpose to which its several compartments are applied, no exception can be taken to it. It is divided into two parts, of which one is employed for the cultivation of plants, the other for that of fruits. Entering from its western extremity we come first to the Orchid house. The collection of Orchids is being gradually formed, and most of the plants are too young to call for any special mention. All appeared healthy; the fine and abundant pseudo-bulbs of the present year's growth, which were hardly matured at the time of my visit in August, fully attested the vigour of the plants and the care exercised in their treatment. A flourishing Passiflora quadrangularis covered the back wall.

The next house is a stove containing some magnificent plants. Amongst the most conspicuous were a fine Martinezia caryotæfolia, Maranta illustris, Maranta splendida, and a very fine beautifully-coloured specimen of the magnificent Maranta Veitchii. There was also a fine specimen of the striking Caladium Belleymei, and a very fine Phytelephas macrocarpa. Of other specimens claiming a notice, amongst a host of choice plants were Pavetta borbonica; the beautiful Screw Pine, Pandanus elegantissimus; Cyanophyllum magnificum, and Anthurium regale. Nor must I omit to mention some fine plants of the leading kinds of Achimenes in bloom.

The first objects that attracted my attention on entering the next compartment were some good examples of Eucharis amazonica in splendid bloom; the purity of its colour, and delicacy of its perfume, render this beautiful plant a general favourite. The plants were growing in a cool house of large dimensions, being probably as large as the stove and Orchid house combined. Its centre is traversed by a pit or raised bed, in which some large Camellias, a huge Brugmansia, and other plants, were flourishing. The centre of this bed is occupied by a circular basin and fountain. Some plants of the pretty Panicum variegatum were in hanging baskets, suspended from the roof. This beautiful variegated Grass is one of the most useful and ornamental plants in cultivation, its creeping and branching habit of growth, and its peculiar property of emitting roots and branches from every joint, render it useful in many ways, and it may be trained in any form according to fancy. The best method is to fill a pyramidal or globe-shaped wire trellis with moss, and to fasten it to a pot in which two or three plants of Panicum are growing; all that is then required is abundance of water and constant attention to the training, for the more closely the young shoots are tied-in to the moss, the more quickly do they become attached to it by their roots. A fine specimen may also be formed in a few weeks by mixing a few handfuls of light rich soil with the centre mass of moss, and planting a number of young plants in the moss itself. A Tecoma jasminoides trained to the roof was also noticeable for the profusion of its flowers. The back wall was entirely covered with Passifloras and Camellias, with the exception of the space required for a door leading into a fernery.

This fernery is a square building having a span-roof glazed with rough plate glass, and resting on walls of solid masonry. That ample light is thus obtained was fully indicated by the healthy appearance of the Ferns. The house is quite plain, and has side stages, and a square flat central stage, all of slate slabs. The group of Ferns in the centre is tastefully arranged in the form of a raised mound, whose highest part is crowned by a fine Cycas revoluta. Ferns are also planted under the stages amongst fragments of rock; and suspended from the roof are many different kinds in baskets.

Leaving the plant houses, we come next to two vineries, one a Muscat house, and the other containing a number of the leading kinds of Grapes. The whole of the Vines have made fine rods, and will, doubtless, carry some fine fruit next season, which will be their first fruiting year. The next compartment is a fruiting Pine stove, containing a splendid lot of plants, principally Queens. Beyond this is the last house of the range, 80 feet long, filled in the winter months principally with Azaleas. The site of this house was formerly occupied by one of smaller dimensions, in which grew a Black Hamburgh Vine. When the old structure was removed the Vine was allowed to remain, and it now spreads over two-thirds of the trellis of the new house, presenting a singular appearance, for owing to the new house being much wider than its predecessor, the stem of the Vine stands out in the centre of the house away from the sides. The crop was one that would have delighted the heart of an advocate of the extension system, for here were three hundred fine bunches of Grapes on one Vine, thoroughly developed, in the highest state of excellence, and without the slightest flaw in berry, bunch, or colour. I need hardly allude to the healthy appearance of the foliage, as it will be quite apparent to all who understand Grape culture, that a Vine carrying a crop of such high excellence must necessarily have not only healthy foliage, but a vigorous root action. Such a splendid sight as this Vine presented would convert almost any unbeliever in the merits of the extension system, for surely the crop of a single rod, even if its ten or twelve bunches have attained an extraordinary size, can never be of such interest, or make such a demand on the skill of its cultivator, as a Vine similar to that growing here. I noticed, too, a number of strong young Vines in pots, comprising most of the leading varieties. They are an important feature in this establishment, as the earliest Grapes are obtained from pot Vines. The house is connected with a door of the mansion by a glass corridor, by which means the entire range is available to the family in all weathers. The sides of the corridor were principally filled with Orange trees loaded with fruit, and along with them was a fine specimen of Chamærops humilis. The supply of water is abundant, and the arrangements in connection with it are excellent, as each house throughout the range has its separate tap.

After leaving the principal range, an object of interest presented itself in the shape of some model pits of precisely the same shape as the larger houses; in fact, they may best be described as miniature hip-roofed houses having a passage under the hip, with a pit in the front part, having pipes for bottom heat, in which plants can either be plunged in pots or planted-out. There are four of these pits, which are used for producing Melons and Cucumbers on trellises, and the earliest crops of Grapes from pot Vines. The method of supporting the Melon fruit growing on the trellises adopted by Mr. Gifkins, the gardener, is so novel and ingenious, as to be worth describing. A circular piece of sheet tin about 9 inches in diameter is made slightly concave, and its centre is perforated with some small holes to prevent the accumulation of moisture. My meaning will, perhaps, be plainer, if I compare this part of the support to a cream-skimmer minus its handle. Two long flat pieces of tin about an inch wide are soldered to opposite sides of its rim, these flat side pieces or handles having a hole punched at every half inch throughout their length; and two pieces of stout wire having a hook at each end complete this simple but very effective apparatus. When a Melon needs support an end of each wire is hooked through one of the holes in the sides, the support is slung to the trellis wire by the other hooks, and the fruit is placed in the support, which can be raised or lowered at will by means of the holes in the sides.

In a line with the pits just referred to are the succession Pine pits, full of vigorous plants, in various stages of growth. A third range of pits, having the ordinary sliding lights, used in spring for producing forced vegetables and flowers, were filled with well-coloured examples of Golden Coleuses, Achimenes, crimson and yellow Celosias, and various other useful plants, The whole of the glass buildings in this enclosure are efficiently heated by one of Ormson's tubular boilers. Against the wall at the south side of the enclosure opposite the houses, are two useful sheds formed of a wooden framework, covered at top with canvas shading, and open at the front and ends. These sheds were filled with Camellias, Ericas, and a variety of New Holland plants. The collection of Azaleas in pots is healthy and extensive; most of the plants were fine symmetrical pyramids.

In addition to the area occupied by the glass buildings, considerable space is also devoted to beds of those classes of flowers most useful for supplying cut blooms, such as Carnations, Liliums, Gladioluses, and Roses.

A door in the south wall opens into the dressed ground; from this point a wide expanse of lawn dotted with Pinuses, and clumps of huge old Oaks and other deciduous trees, sweeps by the south front of the mansion round to the terrace and flower garden at the east front. The south lawn is belted with groups of shrubs and plantations of Rhododendrons. Under some of the Oaks there were from thirty to forty large Camellias, growing in tubs; they were very noble specimens, all of them being nearly 12 feet high. The dark green hue of the glossy foliage of these huge plants was very beautiful; but when such foliage forms a background for the multitude of blossoms of which they are already giving promise, the effect must be splendid.

The flower garden, occupying the entire length of the terrace, is composed of two sets of beds precisely similar in design, each of which fills nearly half the space of the terrace. Each design may be described as an elongated scroll, forming a number of semicircles, and sweeping boldly and gracefully round at its ends, having a large oval bed in front of its centre, while circular beds of a proportionate size are placed opposite each semicircle. The whole of the beds are laid out on turf; they were well filled with plants, and the effect was gay and pleasing. Water is conducted to the terrace by pipes underground and the beds are quickly watered when necessary by a hose and jet. A small conservatory is attached to the south front of the mansion, and it is there that the large Camellias find a home in the colder months of the year. Two large logs of wood, one on each side of the conservatory, were covered with several varieties of the new Clematises, which were perfect masses of floral beauty, one of the logs over which climbed

Clematis Jackmanni, Prince of Wales, and Rubella, must have had on it fully five hundred expanded blossoms.

The kitchen garden is in a valley in the park at a distance from the dressed grounds; it consists of a walled garden of about 1½ acre; and an adjoining plot, enclosed by a fence, probably covers about 3 acres. In the walled garden were good vegetable crops, some beds of Alpine Strawberries, with abundance of fruit; Cob Nut and Filbert trees laden with nuts, and on the walls plentiful crops of Green Gage and Orleans Plums, and Morello Cherries. A pump stands in the centre of the garden; it is supplied with good water by pipes from a pond at the head of the valley.

On a vacant space of ground between the pond and the walled garden is a Peach or orchard house, 98 feet long by 5 feet wide, heated by pipes. This house is worthy of notice from its being built on a hanging level, so that one end is considerably above the level of the other; another singular feature is the use of slate slabs for the front wall, in place of brickwork.

Near the orchard house is a range of cold pits 50 feet long by 9 feet wide, divided into four compartments; these are devoted in spring exclusively to the production of early Potatoes, which are followed by a crop of Melons, of which large numbers are required, and I have no doubt the supply is quite equal to the demand, for this range contained a crop of at least a hundred fruit, all swelling to a large size, and many of them approaching maturity. Scarlet-fleshed kinds are most sought for, and among the many varieties grown here Scarlet Gem takes a leading position.

Mr. Gifkins evidently has the gardens well in hand, and I heartily wish him success in that most interesting work to a gardener, the gradual development of the gardens under his care, from roughness and sterility to the highest possible state of order and productiveness.—Edward Luckhurst, *Egerton House Gardens, Egerton, Kent.*

IRESINE HERBSTII.

I am pleased to see "D., *Deal*," speak so highly of Iresine Herbstii as a decorative plant. I have grown it two seasons with good effect; it withstood the drought of 1868, and continued to be an object of interest till killed by the frost. With a little attention to pinching and pegging, it can be used for front, second, or third rows in ribbon planting; neither the summer sun nor autumn rains seem to have any deleterious effect upon it. The cold and wet of the early part of this summer made it somewhat late before it could become thoroughly established, but the fine late autumn has amply made up for that deficiency, as the colour and the size of the foliage are now all that can be desired; and I question if we can find anything in habit and colour of foliage to compete with it.

A great recommendation in favour of Iresine Herbstii is the facility with which it can be propagated, as the smallest piece will easily strike, and quickly become a plant, which is a great consideration where only a limited space is allotted for growing bedding plants for planting out.—Rustic.

SOOT AND MILDEW.

Some time in last July a large number of fine Hybrid Perpetual Roses in pots were here (Sawbridgeworth), so infested with mildew as to be white, every leaf being covered with it. Happening to walk out one dewy morning I found them, to my surprise, black. On looking at them more closely I observed the change of colour caused by a coating of soot adhering to every leaf, and on inquiry I learnt that Mr. Perry, our man Friday among the Roses, finding flowers of sulphur quite useless in arresting this Rose pest, had, as a sort of *dernier ressort*, applied soot while the leaves were covered with dew. This was allowed to rest on the leaves for five days, and then, lacking a shower, it was washed off with the syringe placed close to the plants, and used with as much force as possible. The leaves at once assumed that dark green so agreeable to the cultivator, and all the buds opened freely, giving flowers of more than ordinary brilliancy, as if the soot had not only killed the mildew, but had acted as a powerful manurial stimulant, which was undoubtedly the case. Before applying the soot the blossoms should all be cut off, leaving only the buds.

In some cases the mildew was not all destroyed, and so, after eight or ten days, a second dressing of soot was given, which, after a few days, was washed off by a heavy shower, leaving the plants in a beautiful state of health. Since the first operation, as above described, large numbers of Roses in the open quarters were dressed in the month of August with soot. In all cases it has arrested mildew, nearly destroying it. Within these few days (October 6th), the first plants dressed were again attacked with mildew, and are now black with their sooty coat; this will be washed off in a day or two.

A short time since I had some Peas (sown in July), dressed with soot; there was no mildew on them, but I thought it might prove a preventive. The dressing was given when the morning dew was thick on them, but owing to the glossy nature of their leaves it would not rest on them, but all settled on the soil. This might have some effect. At any rate the Peas are bearing a fine crop, and are most luxuriant in their growth. I think it quite probable that soot as a remedy for mildew is very old, but I do not remember having seen it recommended. It may be applied to many things besides Roses; it can do no harm. It must be borne in mind that soot to cure mildew should be dry and fresh.

October 11th.—On having the Roses, which were dressed with soot on the 6th, syringed this morning, so as to wash it thoroughly off, I find every leaf clean, and of a dark green.—Thomas Rivers.

SAXIFRAGA SARMENTOSA CULTURE.

This plant seems to be among the forgotten ones, for I never see its name mentioned, and I wish to recommend it for pot culture. Under proper treatment it produces pyramids of bloom 1½ to 2 feet in height, and more than half as much through; it is then a beautiful plant for conservatory or table decoration, and few plants will bear close inspection better than it, with its prettily-spotted flowers and variegated foliage. Pot the runners at different times in the spring in a compost of equal parts of turfy peat, loam, and leaf mould, with sufficient sand and broken bricks or charcoal to make it light and porous; shift them as required, giving the last shift about August, when they will require 8 or 9-inch pots; and keep them always in a greenhouse or airy pit, except when they are wanted for forcing. They can easily be forced. By forcing some and retarding others, they can be had in bloom all spring and during a good part of the summer. Take off all runners as they appear till the plants show flower; then stop the runners at the pot's edge, and they will make a pretty fringe to cover the pot. They require care in watering at all times. The plant dies after flowering.—J. W., *Oxton, Cheshire.*

NUNEHAM PARK ONION.

As Mr. Cutbush invites reports on the Nuneham Park Onion, I give you my small experience of the matter. On the 26th of February I sowed four rows of White Spanish, four rows of Strasburg, and three rows of Nuneham Park, each row being of precisely the same length—viz., 24 feet, the rows I foot apart, and side by side with each other. The following is the result:—Four rows White Spanish weighed 19 lbs.; four rows of Strasburg, 33 lbs.; three rows of Nuneham Park, 33 lbs., the same weight precisely of the four rows of Strasburg. The Nuneham Park Onions are rather flattish, something of the Tripoli shape, pale-skinned, and mild in flavour. I know nothing yet of their keeping properties, as I never grew them before, having been induced to do so this year from the remarks and advertisements I read in this Journal. I intend trying their keeping qualities with the Strasburg, and if they stand the test I shall grow no others in future, unless, indeed, some others turn up to beat them again. I may add there was not a thick-necked Onion in the lot.—Joseph Metcalf, *Templeogue, Co. Dublin.*

WATER RENDERED CHALYBEATE.

From the well here we used to draw the water by means of a windlass and bucket, with much inconvenience, consequently I substituted a pump and iron piping. Now, this has rendered the water very unpalatable, and although it is still clear, it oxidises the sides of a water bottle if allowed to remain overnight, yet it will be perfectly clear upon pouring out. Again, even upon pumping all the water out of the suction-pipe, so as to procure some direct from the well, it is strongly and unpleasantly chalybeate. Would you have the kindness to tell me the best means of remedying it at the least expense?—J. M., *Worth, Sussex.*

[The pipes should have been vitrified, or lead pipes used,

and the water that stood in them pumped off previously to drawing from the level. We should be glad if some of our readers would state their opinions, as the matter is of general importance.]

ROYAL HORTICULTURAL SOCIETY.

October 19th.

Fruit Committee.—At the meeting held this day, George F. Bleukins, Esq., was in the chair. The Rev. George Kemp having offered two prizes of £3 and £2 for the best six bunches of Grapes, grown in the open air without any protection whatever, a very spirited competition took place. There were eight exhibitions of Royal Muscadine, and only one of any other variety—viz., the Black Prince, which was quite unripe. The Royal Muscadines were in almost every instance good, both in appearance and flavour; the first-prize lot of Royal Muscadine, which came from Mr. Miller, gardener to J. F. Friend, Esq., Northdown, Margate, especially so, and finer than some of the same variety exhibited from the neighbourhood of Paris, thus proving that our own climate is capable of producing nearly as good Grapes as many parts of France. The second prize was awarded to Mr. Tranter, Upper Assendon, Henley-on-Thames, also for Royal Muscadine. Mr. Foster, Leigh, Essex; Mr. Earley, Digswell; Mr. Garland, Killerton, Exeter; Mr. Hepper, The Elms, Acton; Mr. Lynn, Hedsor; and Mr. Smith, Turnham Green, likewise competed. It was announced that the Rev. G. Kemp would offer similar prizes for out-door Grapes at the last October meeting next year.

W. Looke, Esq., Clove House, Seend, Melksham, Wilts, sent specimens of a very curious and interesting sport from the Citronelle Grape. This resembled in its peculiarity of colouring the old Aleppo, or Variegated Chasselas, some of the bunches being produced black, some green, others with one half or a few berries green and the rest black, some striped, or one half of the berry green and the other black, altogether presenting a singular appearance. The flavour of these berries did not differ from the Citronelle, which is a small white Chasselas with a pleasant Sweetwater flavour. Mr. Eckford, gardener, Coleshill, sent specimens of his seedling Grape, called Coleshill White Hamburgh. In appearance it somewhat resembles Buckland Sweetwater, with the texture of the Tokay, having no point of resemblance to the Hamburgh class of Grapes. The Committee did not consider it worthy of introduction.

Mr. Woodward, gardener to Mrs. Torr, Garbrand Hall, Ewell, sent a very splendid dish of Sir Charles Napier and another of British Queen Strawberry, ripened in the open ground on plants forced early in spring, and afterwards planted out. These would have been creditable enough in June. A special certificate was awarded. Mr. Richards, gardener, Stoke Park, Slough, sent three magnificent fruits of Smooth Cayenne Pines, weighing upwards of 24 lbs. These were well grown, and noble examples of cultivation. A special certificate was awarded. Mr. Hepper, gardener to J. B. Walmsley, Esq., The Elms, Acton, sent a dish of Plums, produced on the wood of the current year's growth, a sort of second crop. Mr. W. Paul sent specimens of Pond's Seedling Plum, produced in the same way. Messrs. Harrison & Sons, nurserymen, Leicester, sent a branch clustered with fruit of Harrison's Late Cluster Plum, which in appearance resembled the old Muscle Plum. It proved of very bad quality, although it may be useful as a very late tart Plum. Henry Webb, Esq., sent some fine fruit of Urbaniste and Beurré Diel Pears. Mr. W. Paul sent fruit of a Pear received from America as Tyson, which very much resembled the Seckle, although much larger and coarser. Mr. Chaff, gardener to A. Smee, Esq., Wallington, sent some noble specimen fruits of Lord Derby Apple, a good, useful, early kitchen sort. Mr. Denning, gardener to Lord Londesborough, Grimston Park, sent some fruit of an Apple known locally as the "Elmender." It was not possessed of much merit.

Mr. Miller, gardener to J. F. Friend, Esq., Margate, sent a fruit of a hardy ridge Melon, which proved of very fair quality. Mr. Lee, The Gardens, Blenheim Palace, Woodstock, sent fruit of a very pretty red-fleshed Melon, which was possessed of no particular merit. Mr. Carr, gardener to P. L. Hinds, Esq., Byfleet, Surrey, sent a fruit of the Avocado Pear, a tropical fruit. It is of the size of a small Melon, oval in shape; the skin deep green, coloured a little on one side, and spotted with dull red all over. The flesh, which is about an inch in thickness, is of a soft pasty character, of a pale yellow colour, covering one large seed in a kernel, like a Plum. As a dessert fruit it is uneatable. As this is the first time this fruit has been ripened in this country, Mr. Carr was specially commended for its production.

M. Le Conteur, Belle Vue, Jersey, President of the Royal Jersey Horticultural Society, sent some uncommonly large Onions, which had obtained the first prize at the Society's Show held in Jersey. They were considered to be the Globe Tripoli. It was ordered that one of them be cooked, and again submitted at the next meeting. They were highly commended by the Committee. Messrs. Ratley & Silverlock, seedsmen, 412, Strand, sent examples of the new Onion called Bedfordshire Champion, which bears a close resemblance to the old Globe. Mr. Hepper, Acton, sent a brace of Cucumbers, the produce of a cross between Masters's Prolific and Manchester Prize. Mr. Hepper also exhibited a small dish of Dillistone's Early Pea.

Messrs. Veitch & Sons, Chelsea, exhibited a great variety of Beets, examples of which were cooked for the opinion of the Committee. These included Notting's Dark Red, Pine Apple, Dell's Crimson, Cattell's Crimson, Osborn's Red, Dark Red Egyptian, Veitch's No. 2 and No. 3. The finest-flavoured and best variety proved to be Veitch's No. 2, which was awarded a first-class certificate. Messrs. Veitch also exhibited samples of Scarlet Brazilian, Beck's Improved Seakale, and Spinach Beet, the leaves and stems of which variety only are used.

Mr. Wm. Paul, nurseryman, Waltham Cross, sent a collection of twenty-five varieties of Potatoes, many of them very fine in appearance; a special certificate was awarded. Messrs. Sutton & Sons, Reading, also sent a collection of fifty-three varieties of Potatoes, comprising most of the leading sorts, and some extremely handsome. It is impossible, however, to judge of Potatoes by their appearance alone. A special certificate was awarded.

Floral Committee.—The number of plants sent on this occasion was unusually small, no doubt owing to the inclemency of the weather.

Mr. B. S. Williams sent a fine group of Orchids, to which a special certificate was awarded. The most noticeable was a species of Aerides, in the way of A. suavissimum, but with more colour in the sepals. A plant of the latter was sent for comparison, but it was thought not sufficiently expanded in flower to judge of the difference between it and the new sort. In this group was also a fine plant of Angræcum eburneum, with a long spike of flowers; Odontoglossum bictonense, with two handsome spikes; Lælia Perrinii, Calanthe vestita rubra, Miltonia Morelliana, Lycaste Schilleriana, the curious Oncidium ornithorhynchum, Pleione lagenaria, Zygopetalum crinitum and Z. Mackayi, Barkeria Skinneri, with four spikes; Vanda tricolor insignis, and some good forms of Lycaste Skinneri.

From Mr. Denning, gardener to Lord Londesborough, Grimston Park, Tadcaster, came three finely-flowered plants of Vanda cærulea, the largest specimen being a very fine example of successful cultivation, the plant being feathered with foliage to its base, and having three spikes of flowers, containing forty-eight expanded flowers, which were finely coloured, and one bud. The Floral Committee recommended to the Council that the Lindley medal should be awarded to this fine example. One other specimen had twenty three expanded flowers, and one eight expanded flowers. With them came a well-flowered plant of Cattleya exoniensis, and to this and the Vandas a special certificate was awarded.

From Mr. Wilson, gardener to William Marshall, Esq., Clay Hill, Enfield, came Odontoglossum Rossii var. Warneri, a large-flowering form of this handsome species, having pale sepals with large dark spots, pure white petals, with a yellow crest, and pale rosy purple colouring, which was awarded a first-class certificate; and a cut specimen of Lælia elegans Wilsoni, which was thought to be inferior to others in cultivation. In regard to O. Rossii var. Warneri, it was thought by some to be possibly identical with Odontoglossum Warnerianum.

From the Royal Horticultural Society's gardens came some well-flowered plants of Odontoglossum grande and Lælia Perrinii, and a pan of Pleione Wallichiana beautifully flowered, to which a special certificate was awarded.

Mr. Thomas Moore, of the Botanic Gardens, Chelsea, received a first-class certificate for Athyrium Filix-fœmina Elizabethæ, a very handsome seedling form of the Lady Fern, brought for the purpose of showing how varied are the forms which will come from seed.

From Mr. Eckford, The Gardens, Coleshill, came zonal Pelargonium Purity, in the way of Madame Werla, and having a pure white flower of fine form, with a carmine ring round the eye. It was regarded as a very good variety, but thought to be not distinct from other kinds in cultivation.

Messrs. Standish & Co. sent a plant of their Ascot Yellow Perpetual Picotee, to show the excellence of its habit and freedom of bloom.

From Mr. H. J. Barlow, Vine Cottage, Plymouth, came blooms of a seedling double Fuchsia, with scarlet tube and sepals, and a blotched crimson and rose corolla with curious serrated edges.

Mr. J. E. Dwelly, Marlborough, sent blooms of a white Hollyhock, but in very poor condition as shown.

General Meeting.—J. Bateman, Esq., F.R.S., in the chair. After the election of one new Fellow, the Chairman pointed out the leading plants exhibited, remarking of the Pleiones that in time of flowering and appearance they are the autumnal Crocuses of the Himalayas. They require heat with plenty of moisture while making their leaves, and then to have a dry season and a cooler house for flowering. Dr. Hooker had mentioned in his "Himalayan Journal," several other species besides the five known to us. Of Vanda cærulea from Lord Londesborough's gardener, Mr. Bateman said he did not remember the plant having been ever exhibited in such beauty before, and fine as the specimens were which Messrs. Veitch had shown, they were not as the specimens exhibited on the present occasion. The cultivation of this Vanda, like that of the Pleiones, was not understood, for the majority of Orchid-growers failed with it, and had a doleful tale to tell after three years. At Lord Londesborough's it was grown in a corner of a house facing the north-east, where there was little sun but plenty of light. Dr. Hooker in his "Himalayan Journal," had given an account of finding it in great beauty and profusion in Oak woods near an Indian Stonehenge. Mr. Bateman then read an extract from Dr. Hooker's work describing the position it was found in, and the size of

the panicles of flowers. After brief allusion to Cattleya exoniensis as being unequalled in the delicacy of its flowers, Mr. Bateman drew attention to a beautiful specimen of Barkeria Skinneri, from Mr. Williams, and stated that the great secret of success in the cultivation of this plant, is to grow it on pieces of board so as to expose its roots to the air, not in earth, which is an abomination to it. A new Cypripedium, from Costa Rica, was then noticed as being of good habit and producing as many as forty or fifty flowers on a stem, but unfortunately not at one time, for before a second flower comes out the first is on the point of departure. The Avocado Pear, Messrs. Sutton's Potatoes, and the Currant Tomatoes shown at the previous meeting, were then briefly referred to, Mr. Bateman remarking of the last that they were most excellent.

Mr. Blenkins drew attention to a seedling Walnut, from Mr. Cox, which had been exhibited last year, but which had on this occasion arrived too late to be submitted to the Committee. The nuts were more elongated than the common, the shell very thin, and the flavour good.

The next meeting will be held November 16th, on which occasion prizes are offered by W. Wilson Saunders, Esq., for collections of winter bedding plants in pots or boxes, and by the Society for large-flowering and Pompon Chrysanthemums, for cut blooms of Chrysanthemums, and for plants in pots bearing decorative fruits.

WAYSIDE JOTTINGS.—No. 2.

Shortly after my visit to the locality described in my last budget of notes (see page 138), I was induced to examine another piece of bog land nearly a couple of miles from the shore of the Solway Frith, about a dozen acres in extent, and known as Hanging-Show Moss, situated towards the western extremity of the extensive parish of Holme Cultram.

On approaching the Moss I was much struck with the geological features of the surrounding district. All round were to be seen sandy eminences or hummocks, in shape not unlike the segment of a sphere; between their bases lay strips of bog land, apparently landlocked among these hills in such a manner as to render the drainage of them a matter of difficulty as well as of expense. The contrast between the botanical productions of the hills and of the intervening bogs was very marked.

In the narrow sandy lanes were large quantities of the wild Pansy, the flowers being of all shades of colour from deep violet to almost pure white, and intermingled along the hedge-banks in the most pleasing manner. The hedges themselves were gorgeously bedecked with the bright yellow blossoms of Furze and Broom, striving as if for the mastery, and entirely throwing into the shade the straggling patches of Hawthorn, of which the original fence had no doubt mainly consisted. I do not recollect ever before having seen the Gorse in such profusion of blossom, and I fully sympathised with the feelings of Linnæus on seeing this common English shrub in bloom for the first time. Among other plants conspicuous in the hedgerows was the common Burnet Rose (Rosa spinosissima); while deeply rooted among the loose sand of the hedgebanks were some fine specimens of the Storksbill (Erodium cicutarium). In one place not far from the hamlet of New Cooper, I found specimens of a small cruciferous plant, not at all common in the neighbourhood—the Teesdalia nudicaulis; and at the next turn of the lane I discovered another plant, to which I was almost equally a stranger—Thymus Acinos, or Basil Thyme. Of this last I could only find a single patch of not more than half a dozen plants.

On arriving at the Moss, I found some labourers at work digging peats for winter fuel. Observing that I was busy collecting herbs, one of the men came gravely up to me, and begged that I would prescribe for him, as he declared himself quite a martyr to rheumatism. I had great difficulty in persuading the simple-minded turfcutter that I was not a compounder of potions of the Dr. Coffin type, but merely an inquirer into the works of Nature as presented in the Moss from which he was cutting peats. In an abandoned peat-pot hard by I pointed out to him where the pretty little Marsh Violet (Viola palustris), was in blossom, and asked him to compare it with the common Dog Violet, growing on the bank by his cottage door, with which he persisted that it must be identical.

Leaving him to resume his work, I strolled across the bog, which was very plentifully sprinkled over with the shining leaves of White Rot (Hydrocotyle vulgaris), Cotton Grass (Eriophorum), of at least two varieties, and Marsh Cinquefoil (Comarum palustre). The pretty but diminutive blossoms of the Cranberry (Vaccinium Oxycoccus), were tolerably plentiful in one part, while the star-like tufts formed by the fringed leaves of the Sondew (Drosera rotundifolia), not yet in flower, were to be seen in another. At the lower end of the Moss, again, like a clump of low Willows, was a considerable bed of Myrica Gale, or the Bog Myrtle, the leaves of which emit a strong and not unpleasant odour when crushed in the hand. The Little Bog Stitchwort (Stellaria uliginosa), grew in some of the more spongy parts of the bog, the examination of which yielded me a degree of pleasure which amply compensated me for the exertion of walking some four or five miles to pay it a visit.—H.

DELAWARE PEACHES.

Among the first Peach orchards planted in this State were those of Mr. Ridgway, near Delaware City, in 1833; Major Reybold's, in 1838; and Mr. Spearman, in Newcastle County, in 1838.

Mr. Todd, of Dover, planted the first orchard in that vicinity, in 1840. During that season one orchard of about forty acres realised a profit of about 9000 dollars, and this fact started the great Peach excitement, which still exists, and so far has resulted in the planting of about two million trees in Delaware and on the eastern shore of Maryland. They consist of the following varieties:—Hale's Early, Troth's Early, Early York, Crawford's Early, Reeve's Favourite, Old Mixon, Ward's Late, Fox's Seedling, Crawford Late, Delaware White, Patterson's and Freeman's White, and Smock Yellow. The Peaches ripen on these trees in the order given above, and therefore a good supply is kept up from about the 20th or 26th of July until nearly the close of September. After planting the trees, the ground is cultivated in corn for three years, but after that the trees shade the earth to such an extent that it will not pay to plant any kind of crop. The ground, however, has to be well cultivated every year, and manured, if the trees are expected to bear well and live any length of time. It has often been stated that the trees will not bear to any extent more than four or six years; but the most intelligent and experienced gentlemen in the business say that the trees will remain profitable for fifteen or twenty years, and that the orchards which die out in six years do so because they have not received proper care and culture.

Land is now selling in Caroline County at from 10 to 25 dollars per acre.

The orchards in Delaware occupy from 40 to 1000 acres each, and when the trees are from six to eight years old, from 3 to 4 bushels of Peaches will be gathered in a season from each tree, but the general average is about 2 bushels which in a season like the present will realise from three to three and a half millions of dollars. On 150 trees of Early Troth, planted near Middletown, 700 baskets were realised this season. The shipments from this station amount now to 5000 baskets per day. About 120 of the orchards in Delaware were sold at an early date to speculators, at from 40 to 50 cents per basket, in Kent County, and 50 cents Newcastle County, the owner of the orchard having the Peaches picked and delivered at the nearest station.

So far as the early Peaches are concerned, the parties who sold their orchards have had the best of it, as those who shipped their Peaches to a market have not realised much profit, and in some cases they suffered a loss. The Peaches were small, in consequence of the great number on the trees and the dry weather, and thus they were sold at a lower rate than usual. The Peaches to be shipped after these, and from then until the close of the season, will be large and fine, and then the grower expects to realise his profit. Mr. S. Townsend, below Middletown, has 40,000 trees of the different varieties, and all of them are as full of Peaches as the limbs of the trees will bear.

It is estimated that at least 3000 men, women, and children are now engaged in Delaware in gathering the crop. Men are paid 1 dollar per day and boarded, or 1½ dollar if they board themselves. Women and children receive about half of the above rates. Employment is also given to a large number of persons in various parts of the country in the making of baskets and crates, the former costing from 20 to 35 cents each, and the latter 20 cents each.

The Peaches reach Philadelphia and New York in better order than in former years, in consequence of the recent improvements made in ventilation, particularly in the cars belonging to the Philadelphia, Wilmington, and Baltimore Railroad.

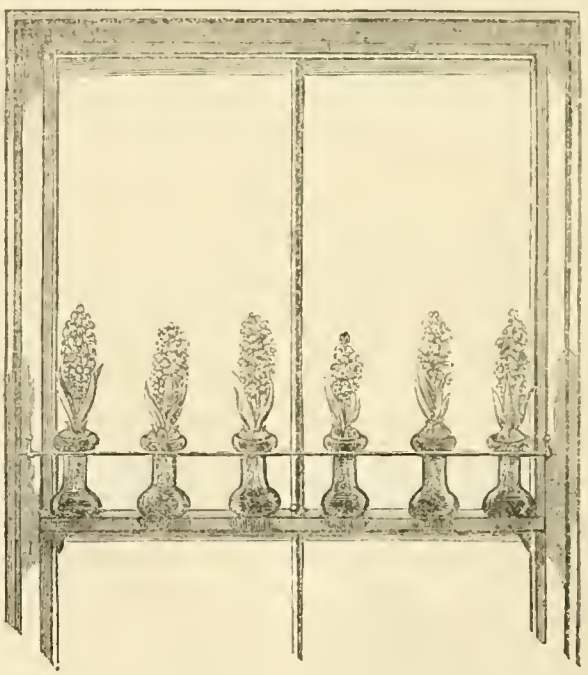
To give the reader some idea of this great business, we procured the following statement of the number of car loads sent

over the Delaware Railroad to New York, on one day; Laurel, 1 car load; Seaford, 2; Bridgeville, 4; Greenwood, 2; Georgetown, 2; Milford, 6; Harrington, 6; Canterbury, 2; Camden, 10; Mooreton, 3; Dover, 8; Brenford, 3; Clayton, and stations on the Delaware and Maryland Road, 20; Sassafras, 4; Blackbird, 1; Townsend, and from stations on the Kent and Queen Anne's Road, 11; Ginnues, 2; Middletown, 10; Armstrong, 5; Mount Pleasant, 3, and Willow Grove, 1; making a total of 103 cars, each carrying 16,000 lbs, each basket weighing about 32 lbs.

Since the commencement of the present Peach season, about 700 cars have passed over the road, conveying to market over 11,000,000 pounds of Peaches. Each car carries 500 baskets, each basket holding about five-eighths of a bushel. In addition to the Peaches sent from this State by rail, thousands of baskets are sent to Philadelphia and other places by steamers passing through the canal, which passes near to some of the orchards, and by vessels plying in the rivers and creeks throughout the State. The whole yield this season throughout the Peach-growing region is estimated at 5,000,000 baskets. Notwithstanding this immense amount, it is said that a large number of acres of ground now devoted to agricultural purposes, will be planted in Peach trees next fall, as it is thought new markets will be opened at more distant points, as railroad facilities offer, and improved methods of keeping Peaches are introduced.—(*Philadelphia Ledger*).

SOMETHING ABOUT HYACINTHS.

In one of Thomas Hogg's gossiping books about florists' flowers, published about 1822, he devotes a chapter to the Hyacinth, and at the close of it gives a list of 155 sorts as representing the best flowers in cultivatien, and of those 155 flowers 124 were double, and only 31 single. At that time the popular taste ran after double flowers, and it is only within the last fifteen or twenty years that the single flowers, with their much denser and larger spikes, have come to be better regarded than the less symmetrical spikes of the double kinds. In the list of the double kinds I find many that are to be met with still in some of the old-fashioned bulb lists of the present day, but of the thirty-one single kinds only very few. Within the last ten years there has been a perceptible difference in the number of double flowers imported into England, as they have fallen off considerably; while the increase in the demand for single kinds has multiplied to a large extent. If anyone needs a proof of this, let him look over a stand of twenty-four or eighteen Hyacinths staged by Mr. W. Paul, or Messrs. Cutbush & Sons, and not more than three or four double varieties will be found among them. The single varieties, as a rule, have the largest, the fullest, and the showiest spikes of blossoms, while they are generally more decided in point of colour, having more attractive and definite hues. It is for these reasons the single kinds are preferred to the double.



Just now—

> "When sad autumn comes
> stealthily creeping,
> With its ruin of russet and
> grey"—

is a fitting time to present a few words respecting the cultivation of the Hyacinth in glasses, &c. Well and truthfully has it been said, that "of all the delightful recreations that can dispense their kindly charm through the domestic circle, there is scarcely one so pregnant with the highest and purest enjoyment as the cultivation of a few Hyacinths in water. From the commencement of the pleasant process till the last flower decays, it is an almost daily recurrence of joyous surprises—the ceaseless unfolding of new beauties." I cultivate a number in glasses yearly, and from the time that the autumn'e

> "Red leaves fall in sorrow around us,"

the sure precursor of winter's approach, and through the period of its sometimes blustering and fierce, and yet necessary reign, up to the time that young spring comes forth to

> 'Write love's fair alphabet upon the sod
> In many-coloured flowers,"

each day may be said to bring its special interest; for in their continuous development there is so much of fresh revelations of undreamed-of charms, that the task of tending them, to one touched by a genuine and genial love for flowers, never falls to the low level of irksomeness.

I annually grow about eighteen Hyacinths in glasses, and invariably place them all in water at the same time. I have tried different times in the hope of insuring a succession of bloom, but it has happened that those placed latest in the glass were among the first to bloom. I have also ceased to put the bulbs in the water so early as I used, and now do not think of putting them in till the middle or end of October. Fresh rain water is to be preferred, and the glass should be so filled that the water only just touches the base of the bulb. Rain water should not be employed unless it is quite fresh, or otherwise it soon becomes putrid, and causes the roots of the bulbs to decay. If there is no alternative but to employ hard water, it can be exposed to the action of the sun or external air for a time, so much the better. My experience has taught me that hard water used directly it is taken from a well is apt to cause the roots to become a mass of pulp, highly offensive, and fatal in its effects. Two or three lumps of charcoal placed in the glasses about two or three days before they are occupied by the bulbs, in order to allow of the charcoal becoming saturated and sinking to the bottom, will keep the water from turning rank, and prevent the necessity for its being often changed. Some of my best flowers have been in glasses, the water of which was not once changed. Place the glasses in a dark and rather cool situation until the roots have nearly reached the bottoms of the glasses, when they can be brought to the light. A month or six weeks' imprisonment will bring the roots to this stage of development. The most airy and lightest part of a sitting-room, but as far from the fire as possible, is the best position for them. When the bulbs have been in the water about a week or ten days, the base of each should be examined, and any decaying or slimy substance removed. As the shoot of growth increases in size, evaporation will take place, therefore the water should be replenished at intervals, care being taken that what is supplied is not lower in temperature than that in the glass. The foliage of the plants should be kept scrupulously free from any dust or dirt; a small piece of sponge will remove this with but very slight trouble. When the flower spikes begin to show themselves the glasses should be kept filled to the rim with water, as at the point of flowering the bulbs absorb a great quantity of moisture.

I need scarcely mention, that as the Hyacinths grow they must have all the light and air possible, to prevent them

from "drawing." I find nothing better than a window ledge or a table near it, and if a bay window so much the better. My own glasses I place on the window ledge, and halfway up the window, at the junction of the sashes where the fastening is placed; here they do admirably, only when the sun becomes warm they should be shaded from its action, or removed in the middle of the day. Where there is not width of bar enough to support the glasses at the junction of the sashes, as in the case of my own window, then a brass rod can be used, to pass along by the neck of the glass, and drop into a rest on either side. I append a rough sketch of my own contrivance, in the hope of making it clear to your readers.

This arrangement certainly prevents the bottom sash from being raised, but it does not in the least interfere with the top sash coming down. At this stage the great points in the cultivation of the Hyacinths are—a plentiful supply of water, protection from hot sunshine, and the continual raising of the support as the spike of flowers increases in length.

Beyond giving a list of varieties I have found to be specially adapted for cultivation in glasses, I have done with the cultivating process. Alas! how poorly such a system of cultivating the Hyacinth appears to be understood! Let anyone take a walk about the suburbs of London during the spring months, and observe the poor, neglected, starving specimens of the Hyacinth that meet the eye at almost every stage of the progress, and he will readily understand how much a better knowledge is required. If these remarks can aid the dissemination of this knowledge, and can be made the means of inciting some to pursue this pleasant pastime, this paper will not have been written in vain. The following varieties are fine, varied, and moderate in price:—

DOUBLE HYACINTHS.

Lord Wellington, waxy blush, very fine.
Bloksberg, pale lilac, striped with blue.
La Tour d'Auvergne, pure white.

SINGLE HYACINTHS.

RED.

Duchess of Richmond, bright pink.
Emmeline, delicate blush, striped with pink.
Gigantea, pale flesh.
La Dame du Lac, blush, suffused with pink.
Madame Hodgson, light pink.
Norma, waxy flesh colour.
Robert Steiger, fine deep crimson.
Sultan's Favourite, flesh, striped with pink.

BLUE.

Baron Van Tuyll, deep glossy violet.
Bleu Mourant, dark blue.
Charles Dickens, dark porcelain blue.
Emicus, dark blue, light centre.
Grand Lilas, delicate azure blue.
Leonidas, clear bright blue.
Mimosa, dark blue purple.
Orondates, pale porcelain blue.
Prince Oscar, striped deep blue.
Regulus, shaded lavender blue.

WHITE.

Alba Superbissima, pure white.
Anna Paulowna, blush white.
Cleopatra, creamy white.
Grandeur à Merveille, waxy French white.
Grand Vainqueur, pure white.
Madame Van der Hoop, pure white, extra fine.
Mont Blanc, pure white, very fine.
Seraphine, creamy blush.
Themistocles, pure white.
Voltaire, blush white.

YELLOW.

Anna Carolina, clear yellow.
King of Holland, pale yellow, shaded with reddish orange.
Heroine, pale yellow.

—Via.

POMOLOGICAL GLEANINGS.

We have seen some specimens of the Dalrymple Damson mentioned in the following extract of a letter. The Damsons on the branch mentioned were like a cluster of Grapes. It is much larger, but less flavoured than the common Damson, and is evidently very hardy.

"The fruit off the branch is grown in the full sunshine. The small branch is from a tree which loses the sun at 10.30 A.M., and the other branch is from a tree planted on the edge of a wood, and under a Beech tree, and, therefore, never sees the sun, excepting very early in the morning at midsummer. Whatever this Damson may turn out with you, it is a most valuable variety here (St. Boswell's, N.B.). It is very dwarf in habit, an enormous bearer, my trees giving from 1 to 1½ bushel each. It is late in ripening."

WORK FOR THE WEEK.

KITCHEN GARDEN.

Give air freely to *Cauliflower* and *Lettuce* plants under glass; indeed, the sashes should merely be used to throw off rain, for the plants will do all the better if kept hardy. Take advantage of the first sunny day, when the ground is in a dry state, to earth-up *Celery*. The *Mushroom* beds made in September will now be bearing; it is a good plan to sprinkle or syringe the surface of the bed a week or so before the Mushrooms make their appearance, more especially in Mushroom houses where a fire may have been used occasionally. This is far better than watering after the Mushrooms have come through. The water, however, must not be allowed to penetrate the manure, but merely to soften the soil. A sowing of *Peas* on a well-sheltered dry border may soon be made, and do not spare the seed, for it will be some time exposed to the depredations of mice.

FRUIT GARDEN.

The present time is the most favourable for lifting and root pruning such fruit trees as are growing too luxuriantly to produce fruit; and as the autumn is the season generally fixed upon for making new borders or renovating old ones, it is well to remind those about to plant fruit trees of the danger everywhere apparent of making borders too deep as well as too rich. When we see in practice how small a space of border is requisite to support fruit trees in health and productiveness for a number of years, we might be anxious to know how it happens that such unnecessary expense is incurred to do a positive evil, if we were not aware that in many instances it arises from a desire to do the work overwell, and with a misconception of what is necessary to maintain that moderate amount of growth by which alone we may expect permanent results. The border should not be deep—a depth of 18 inches is ample. The soil should be maiden loam of a moderate consistency; no dung whatever should be used, and the roots should be prevented from passing below the border by a considerable depth of rubble or rough paving stones placed so as to leave cavities between them. This border should dip from the wall, so as to throw off surface rains and be well exposed to the sun; and further, I would only make the border 4 feet in width at first, and afterwards extend it as required.

FLOWER GARDEN.

The weather is still favourable for executing alterations, and when these are in hand they should be prosecuted with the greatest possible dispatch. Planting, or the removal of large evergreens, cannot be finished too soon, for it is of the utmost importance that the plants should be afforded some chance of making fresh roots before the trying winds of March set in. See to even small plants being secured against wind, for these are often much injured by being blown about after planting. A small stake and a few minutes' work would prevent this. As soon as the leaves have fallen secure a stock of Briars for budding upon. Let the roots be well trimmed, cutting back closely the strong ones, for these, if left, will be of little use except to furnish an endless supply of suckers. Choice plants in the parterre can no longer be depended on for display; it is therefore desirable at this period to look over the masses and beds, and see if there be any choice plant of a tender character which it is desirable to secure for next year. Such may be potted with a ball and wintered in a cold pit. As the winter approaches, protection of some kind should be provided for tender plants and shrubs; almost any material is eligible if it will in a considerable degree throw off wet. Canopies for this purpose should be so contrived as to admit of one or two sides being opened at pleasure. If only one, it should be placed on the north or west side—certainly not on the south, as the excitement occasioned by fits of sunshine is apt to prove very prejudicial. The covering or canopy should by no means be allowed to touch the plant, and the greater the space allowed between it and the plant the better it will afford protection. It is bad practice to bundle the shoots together like a broom in order to make them occupy a more limited space. More injury is occasioned by confined dung in a majority of cases than by lowness of temperature. Hoodings of straw so formed as to overlap the protecting material beneath are very good and simple protectors, and if rightly contrived may be removed with as much facility for ventilation as the top of an ordinary hand-glass. Oilcloth will also make a good protection when formed into a kind of cone, on the sides of which a small flap or two may be made to open without admitting rain. Before the application of any top covering I would advise that an inch or two of the surface soil around the collar should be removed and replaced with dry cinder siftings, the newer the better, or, where it can be had, cocoa-nut refuse. The latter should be piled as high up the stem as the plant will admit, taking care not to choke too many of the lower leaves; and if the canopy is so contrived as to overlap this mound the covering will be

complete. The only care that remains is to give air in favourable opportunities, particularly avoiding cutting winds, which in all probability do more harm than frosts. The planting of bulbs must now occupy attention. For those of Gladiolus choose a warm thoroughly drained situation; work the soil well by deep digging, and add plenty of rotted manure. Elevate the bed or patch a few inches above the ground level; plant the bulbs 5 or 6 inches deep and 6 inches apart, surrounding them with 1 inch of sand before covering with soil; protect during the winter against excessive wet and frost with a thick layer of sawdust, old tan, dry litter, an old carpet, thatched frames, or tarpaulin. The last three coverings must be removed during favourable weather, and the former coverings should be entirely cleared off when the plants appear. In small gardens, where the ground is required for spring-flowering bulbs, plant two or three in a 6 or 8-inch pot. As soon as the beauty of the spring flowers is over prepare for the reception of the Gladiolus bulbs; in planting out great care must be exercised in removing them from the pots, so as not to disturb the roots. In wet, cold soils the bulbs would be safer if stored in pots during the winter and planted out in May. When the blooming is over the bulbs may either be lifted in patches, potted, and treated during the winter as already recommended, or allowed to remain in the ground, and protected as described above. Established patches produce a finer display than the bulbs would if annually disturbed and broken up.

GREENHOUSE AND CONSERVATORY.

Plants past their best should be replaced at once by something of a more showy character. When the principal collection of Chrysanthemums comes into bloom a selection should be made of the best and most useful sorts, for there are many worthless varieties in cultivation, and it is better to grow duplicates of really good kinds than to retain such as are but indifferent merely for the sake of having a long list of names. Give timely attention to providing a succession of bloom with which to keep the conservatory gay, and avoid as far as possible the expense of forcing, which is injurious to most plants. Be careful not to let plants in bloom suffer from want of water, giving weak clear manure water to Chrysanthemums, Salvias, Camellias, &c., and use every means to preserve the beauty of specimens in bloom as long as possible. Damp and mildew are the great enemies to be guarded against at present in conservatories and greenhouses; but these must be sharply looked after, especially in the case of plants which have not ripened their growth well and are in a rather soft state. Very little water will be required here at present, but the plants should be carefully looked over about twice a-week, so as to make sure that nothing is allowed to feel the want of it. If not already done, have plants tied into proper form with the least possible delay, for it is difficult to tie a plant so that it will not look somewhat stiff and unnatural, and the sooner all this kind of work is done the better the specimens will look when in bloom. —W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Grubs.—We are glad "J. W.," at page 298, approves of shallow planting, which we recommended. Once, when every plant seemed going, we pricked out shallow, then planted with a trowel in a shallow drill, so that we could fasten the plant well afterwards, and we almost entirely escaped. This, however, is not the experience of the market gardener alluded to last week, whose plants were devoured in the seed beds. Our own experience so far confirms the observation of "J. W." We are quite as much obliged to "Y. B. A. Z." for his corrections at page 307. We have no doubt that the grubs we have ourselves seen this season are the larvæ of the crane fly, but it is possible that, leather-jacketed as they are, they may, as our correspondent believes, be the larvæ of some dart moth. We have seen few of the crane flies, or daddy-longlegs, this season, but in previous years we could often have swept them up in a cool morning in shovelfuls. They seemed to have a fancy for benumbing themselves on smooth stone pavement. One of the difficulties in being quite sure of the enemy is that different food and different coloured earth make some difference in the appearance of the grubs.

Scarlet Runners.—Our Peas are nearly over, and we shall seize the first opportunity of taking away the stakes, turning over the ground where the row stood, and putting in some temporary plants of the Cabbage or Lettuce tribe, as all may be useful before the cold days of spring leave us. Our Dwarf Kidney Beans are still fair, but are yielding to the more fleshy Scarlet Runners, which are still quite green, and a mass of pods of all ages. Frequently one sharp night destroys all, so we have a lot of dry litter in readiness, which we shall throw over them when we expect a sharp night. With this precaution we have often had them out of doors far on in November. Our last Dwarf Kidney Beans under a little protection are setting and swelling their pods well. These often help us in the beginning of the dark days without any artificial heat. Care is taken now that the ground shall receive all the benefit of the sun to warm it.

Globe Artichokes.—These never came in earlier than they have done this season, owing, no doubt, to the mildness of the winter. The crop was far beyond the common, both for dishes and for preserving as bottoms; but all at once, even though the ground was not very dry, the yield seemed to cease a few weeks ago much earlier than usual, and the leaves to decay, leaving nothing but the bare flower-stalks, which were cut down and charred, or turned to ashes. The stools seem in good condition, but the young leaves scarcely show as yet. We find, however, on scraping the ground with our fingers they are all right. We began to fear that we had allowed them to bear too profusely, but we think now they will do well next year, and grow strongly enough. We shall ere long place a mound of dry earth over each stool, and then a little litter. Meanwhile, as one dread enemy, the white Convolvulus, had established itself in the ground, we have had the latter carefully forked over, and every root we could see taken out, and as the comparative inconspicuousness of the stools left wide spaces between the rows, after dunging the ground for the benefit of the stools, and scattering some burnt earth and ashes over the surface, we have planted Lettuces thickly down the centre between each row of stools. On each side of these Lettuces we spread a thin row of our burnt heaps, and we observe that not a slug, snail, or grub has yet dared to cross them.

In many families Globe Artichokes are little cared for, but in others they are considered a great delicacy. For ourselves, though not disliking them when well cooked, we consider them chiefly useful when a pleasant conversation is desirable during dinner.

We shall soon be obliged to fall back on the *Jerusalem Artichoke* tubers, to take their place, but we used so many last season, that we did not want to begin with them too early, either for dishes or soups, a great many being required for the latter. A piece in which we thought we had not left a root, came up almost as strongly as a piece carefully fresh planted. When the tubers are seldom used, a small piece of ground may suffice for years, and without the trouble of transplanting; but when used often and prized, a piece should be planted every year the same as Potatoes. Then the tubers cook more regularly from being all of the same age. We are rather surprised that pheasants here interfere little with the tubers, as in the north we have helped to plant them largely in open spaces in woods, and there the pheasants dug up the roots for themselves. Probably it may be they obtain something more substantial in the south, in the way Barley, Peas, and Indian Corn. When once speaking of the abundance of rats to an employer, we accidentally remarked that in a place where we once lived, a rat was a rarity. "A very good reason," retorted he, as he bolted off triumphantly, "a very good reason, they knew they would have starved there, as you would have done had you stayed much longer."

On clearing off Beans, &c., between bushes, we shall fork the ground over after rough-pruning, and plant thickly with any winter Greens left in the seed-beds, as they may be useful in spring, and if not wanted, are easily cleared off. It is always better to have enough and to spare, instead of having to make everything go as far as possible.

FRUIT GARDEN.

Much the same as before. We have gathered the greatest part of our fruit, as even late Pears began to fall, and they keep better if they are not frosted, and several mornings this week the thermometer was very near the freezing point. Our dwarf bush Apple and Pear trees that showed in their foliage a certain brownish tint, the result of the drought of last summer, are now to a considerable extent losing that dingy appearance, and as usual are bristling with fruit-buds. Of a few growing rather strongly, we shall nip the roots a little as soon as the fruit is all gathered. Root-pruned thus early, the trees will not suffer, and if we should have a fair amount of sun for a few weeks, the leaves, so long as they remain at all green, will

help to mature the fruit-buds. If the leaves flag we shall syringe or shade. During the summer we dwelt somewhat in detail on summer pruning, or rather pinching, as a means of regulating the growth and fruitfulness of a tree; but in addition, when we wish to concentrate as much fruitfulness in little space as possible, a little root-pruning will also be necessary.

To many enthusiastic holders of small gardens, this root-pruning is a matter they cannot master, though almost as simple as head or branch pruning. They look upon it, however, with something like dread, and for their sakes we shall mention some of the modes of securing fruit on trees soon after planting, and so as to render root-pruning seldom necessary.

We will first take the case where station planting is resorted to, and means are taken, either by flags or concreting 15 inches or so below the surface, to prevent the roots going down. Good concreting should be about 3 inches thick, and be made of clean gravel six parts, and one part of powdered quicklime, with just enough of water to lay it down of a thickish consistence. Then let it be made smooth and be allowed to dry before the earth goes on. Such stations should not be less than 5 feet in diameter. The bottoming is made to prevent the roots going down, as the deeper they are the greater the tendency to luxuriance of growth, and the shallower the roots the more within atmospheric influence, and the greater the tendency to the production of fruit buds. If such trees need root-pruning, it is easily applied beyond the concreting. The stations should at first be fully a foot above the ground level in the centre, as even with mulching the height will always be lessening. Trees intended for dwarfs, if thus planted, will yield fruit quickly, but will grow rather slowly, as the extreme of growth and the extreme of fertility are ever opposed to each other.

Many who have no great depth of soil, and that soil rather poor, are anxious to have dwarf trees without any bottoming, concreting, and as little as may be of root-pruning. In such a case we would fork over the shallow ground, collect the best surface soil into flat conical heaps, at least 15 or 18 inches above the general level, and this being made tolerably firm we would spread out the roots carefully 6 to 8 inches below the raised surface. In very inferior soils we have obtained fine, healthy, fruitful trees by this means, and that with little more trouble than giving a mulching of a barrowload of rotten dung every season, for if it was applied early in summer it was generally out of sight before the next summer came. The mulching kept the roots moist and near the surface. If the soil was very poor, we would add a little sweet rotten dung mixed with it, but if at all fair we would put no dung at all in the soil about the roots, but apply all the manure to the surface. In fact, in all old kitchen gardens we would prefer a barrowload of fresh soil from the sides of a road, &c., to any manure mixed with the soil. No plan could well be simpler, and results demonstrate that it will succeed.

One, perhaps, wishes for special reasons to obtain small maiden plants, and does not care for fruit for two or three years, but wishes to have good-sized fruitful trees established as quickly as possible. In this case we would not trouble ourselves at first with bottoms or raised stations; we would manure the soil and plant on the level, much as a nurseryman would do, who wants trees to sell instead of to fruit. We would encourage our trees by mulching and watering for a couple of years or so, so as to obtain a nicely furnished balanced top, whatever the mode of growth adopted; and then, as the growth most likely would be tolerably vigorous, in the end of the second or third season, say early in October, we would carefully take up the trees, losing as few roots as possible, never allowing a root to dry, and replant every tree so taken up before beginning with another, spreading the roots out carefully on a raised knoll, covering with about 6 inches of soil, giving a little fresh soil if possible, and applying the dung given in the shape of mulching. We have seen numbers of trees thus treated, that continued luxuriant enough to be healthy, and were fruitful for many years without needing any root-pruning, and but little pruning of the head. Of course there was the trouble of carefully lifting and replanting; but in such young trees that involved less labour than would appear at first sight. The object of the mode was first to secure rapid growth to form a tree, then permanent fruitfulness with but little trouble. When this mode was practised under our advice, and where drainage even was objected to, we had the ground deep-stirred to the subsoil, but the subsoil and the lower strata left as they were before; the trees continued fruitful, the opening of the subsoil carrying off stagnant water, and the mulching on the surface keeping moisture near enough the top to prevent the roots going down in search of it. Though well aware of the importance of drainage to prevent stagnant water lodging, we are convinced we are not sufficiently aware of the importance of deeply stirring the subsoil as an assistant to, nay, even as a substitute for deep drainage, and though aware of the importance of bottoming platforms or borders where there is a thin soil over deep, close clay, &c., we rather think that if called upon to form a large plantation of dwarf fruit trees, we should be satisfied with draining off stagnant water, deeply stirring the subsoil a season before planting; and then, if we could obtain no fresh soil, we would be content with collecting the best surface soil in mounds, and keeping the roots moderately moist, enticing them near the surface by mulchings. Last season mulchings would hardly prevent, in such a case as ours, the roots from becoming too dry; but the circumstances were exceptional, as will at once be seen when we state that for two months we had no clean water to go to, and were forced to cover up what we could not water.

Something will be gained if our readers see that by the simplest modes they can effect their object; only as respects fruit trees let us advise them to bear in mind, that of various modes, one may be as successful as the other when thoroughly carried out, but that the mingling of plans will often be attended with failure; also let them remember the simple fact, that the nearer the surface the roots of a fruit tree are, the more will it be studded with fruit buds, and that if the surface be kept rich and moist by rough mulching, the roots will be less likely to go down deeply in search of water. The mere raising of a mound does not necessarily cause it to dry sooner, and more especially if the surface is stirred or covered. In raised flower-beds we have often found, that from the very depth and openness of the soil, less water was required than in the case of those on the level.

ORNAMENTAL DEPARTMENT.

We are sorry the weather is becoming so much colder. The flower-beds and borders are still so fine, that we would like them to continue a month longer. As yet we have not taken up anything, but next week we must move cuttings, so as to have a place in a cold pit ready for Calceolaria cuttings; for, after all, discarded as they are in many places, the best tricolor Pelargoniums make a poor substitute for them, and as yet we find that nothing meddles with them. Proceeded with housing and potting, and expect a very busy week.—R. F.

COVENT GARDEN MARKET.—October 20.

Markets are still very dull and heavy, foreign importations being in excess, and trade for inferior goods being quite at a standstill. Large arrivals of Potatoes both coastwise and by rail, best qualities maintaining former prices.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples ..... ½ sieve	1	0	to	1	6	Mulberries .... quart	0	0	to	0	0
Apricots ..... doz.	0	0		0	0	Nectarines ..... doz.	0	0		0	0
Cherries..... lb.	0	0		0	0	Oranges 100	8	0		14	0
Chestnuts.... bushel	0	0		0	0	Peaches ..... doz.	8	0		15	0
Currants .... ½ sieve	0	0		0	0	Pears, kitchen .. doz.	2	0		3	0
Black ..... do.	0	0		0	0	dessert .... doz.	3	0		5	0
Figs ..... doz.	2	0		4	0	Pine Apples ..... lb.	3	0		6	0
Filberts ..... lb.	0	6		1	0	Plums ..... ½ sieve	3	6		5	0
Cobs ..... lb.	0	6		0	9	Quinces ..... doz.	1	6		2	6
Gooseberries .. quart	0	0		0	0	Raspberries ..... lb.	0	0		0	0
Grapes, Hothouse . lb.	2	0		5	0	Strawberries .... lb.	0	0		0	0
Lemons 100	15	0		23	0	Walnuts .....bushel	10	0		16	0
Melons ..... each	2	0		5	0	do. 100	1	0		2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0	Leeks ..... bunch	0	4	to	0	0
Asparagus 100	0	0		0	0	Lettuce..... score	1	0		2	0
Beans, Kidney ½ sieve	3	0		4	0	Mushrooms.... pottle	1	0		2	0
Broad .... bushel	0	0		0	0	Mustd.& Cress,punnet	0	2		0	3
Beet, Red.....doz.	2	0		3	0	Onions ..... bushel	3	0		4	0
Broccoli .....bundle	1	0		0	6	pickling .. quart	0	0		0	0
Brus. Sprouts ½ sieve	3	0		0	0	Parsley ..... sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0	Parsnips ..... doz.	0	9		1	0
Capsicums 100	2	0		2	6	Peas ..... quart	0	0		0	0
Carrots.....bunch	0	4		0	8	Potatoes .....bushel	2	6		4	0
Cauliflower..... doz.	3	0		6	0	Kidney.... ditto	3	6		4	0
Celery..... bundle	1	6		2	0	Radishes doz.bunches	1	0		0	0
Coleworts ..doz. bchs.	2	0		4	0	Rhubarb..... bundle	0	0		0	6
Cucumbers .... each	0	6		1	0	Savoys..... doz.	1	6		2	0
pickling .... doz.	0	0		0	0	Sea-kale ..... bshel	0	0		0	0
Endive .....doz.	2	0		0	0	Shallots ..... lb.	0	0		0	6
Fennel .....bunch	0	3		0	0	Spinach ..... bushel	2	0		3	6
Garlic ..... lb.	0	3		0	0	Tomatoes ..... doz.	0	9		1	9
Herbs ..... bunch	0	3		0	0	Turnips ..... bunch	0	4		0	8
Horseradish ..bundle	3	0		5	0	Vegot. Marrows..doz.	1	0		2	6

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*Mrs. M. S.*).—Brown's "Forester."

Seedling Antirrhinums (*A. D.*).—The plants are much too close together. We would thin out every alternate plant, moving with a ball, and either plant in a bed 6 inches apart, or in their permanent quarters. When too close together they become weak and bare at the bottom. The others we would not plant out until March, and then remove them with good balls, watering if the weather be dry. You will have a splendid bloom next year.

Pruning Roses (*Idem*).—To save the plants from being broken by winds, you may peg the shoots down, and dispense with pruning altogether, or merely remove the points of the shoots, or the pegs might be pulled up in March and the Roses then pruned. In this way they will be likely to escape injury from late spring frosts.

Roses for Northumberland (*W. B. R.*).—If you refer to No. 194 of this Journal, you will see a communication from the Rev. W. F. Radclyffe on the subject. It is too long to extract, but you can have a copy sent to you by post if you enclose four postage stamps with your address.

Climbing Devoniensis Rose Lifting (*Sandy Soil*).—This Rose, lifted a month ago and potted, may now be planted out against a south wall. The moving a month ago will not destroy the tree, though the shoots are somewhat shrivelled. It ought to have had a light sprinkling with water overhead, which would have kept the wood plump, moderate waterings being given at the roots.

Woodcut Engraving (*Agnes*).—Plants and every other object can be portrnited in a woodcut. We recommend you to have some lessons in wood-engraving from Mrs. Buchanan, 18J, Fleet Street, who would readily instruct pupils.

Cinerarias Diseased (*G. P.*).—From your description we should say your plants are infested with the orange fungus or mildew. It is very unusual on Cinerarias. Give more air and light, and dust the leaves on the under side with dry lime and flowers of sulphur in equal proportions.

Wintering Pelargonium Stella (*A Constant Reader*).—To make standards they must have clear straight stems or strong shoots of the required height. If the stem is not straight it should be brought as nearly as possible to a perpendicular direction by securing it to a stake. All the side shoots on the stem up to the desired height should be cut off closely. The plants may be wintered in a dark cellar in dry sand, picking off all their leaves, examining them occasionally, and removing any mouldy parts. Frost must be excluded. Let the plants be dry before placing them in the cellar. If put in wet they will certainly become mouldy. Remove from the cellar and pot, placing in a gentle hotbed. They would be better wintered in a greenhouse.

White Bedding Plant (*A. B.*).—The common white Sweet Alyssum would suit your purpose, but white Verbenas would be better. If your Pelargoniums and Calceolarias are strong, white Feverfew would also do if well pruned. The Alyssum is much stronger-growing than the Variegated.

Bignonia radicans not Flowering (*Idem*).—Prune away a lot of the small little shoots, leave those of moderate growth, merely nipping the points out, place them close to the wall, and give the sun a chance to ripen them. If these shoots are ripened, they will throw out short flowering shoots from the buds. If the plants make weak wood, thin them and give rich top-dressings.

Forming an Oval Bed (*M. D., Balham*).—To make an oval when the length is given, divide the long diameter into three equal parts. From the two inner points describe two circles, which circles will form the ends and main bulk of the oval. The points where the two circles meet, or cross each other, will form the centres to connect the ends and sides of the oval. A gardeners' oval is generally thus formed on the ground. The longest diameter is marked out by a cord. It is then bisected in the middle by the shorter diameter, it being thus divided in two. Then take the half of this short diameter and divide that into three equal parts, and set off the length of one of these parts from each extremity of the diameters. Place a cord round these pins, but so loosely that when stretched with a stick it will come to the extremity of the diameter. We generally do one side, then turn the string and do the other side. This is, perhaps, the easiest plan when length and breadth are given. Thus if an oval is 90 feet long, and 60 feet wide, the third of half the short diameter is 10 feet, and, therefore, the pins must be 10 feet from the ends of the diameters.

Packing Ferns (*E. L. J.*).—They would travel best in a box or case, each plant being placed in water so as to have the soil well wetted, and then cover the root with damp moss secured with twine or matting. Place them in the box (a shallow one is best), layer by layer, filling up the intervals with dry moss, and placing a layer of moss between. Any kind of dry material will do for packing in, as chaff or anything light. The tree Fern trunks, the *fronds* being cut off, may be packed in a similar way, and in a long case as required. Though they may come to hand somewhat enfeebled they will speedily recover in a genial temperature and moist atmosphere, soaking the root part well and sprinkling the stems with water twice or thrice a-day.

Fountaine's New Method of Growing Fruit.—The Rev. John Fountaine has sent us specimens of Transparent Gage, Reine Claude de Bavay, and Braby's Green Gage Plums, as well as two Nectarines. The last-named were small, but the Plums were fine, and all excellently ripened and full-flavoured.

Seed Potatoes (*L. Wren*).—We prefer for sets middle-sized whole Potatoes, after cutting off their crowns, either to small Potatoes or cuttings of large ones. We sent your query to a well-known Potato-cultivator, but have not received his reply.

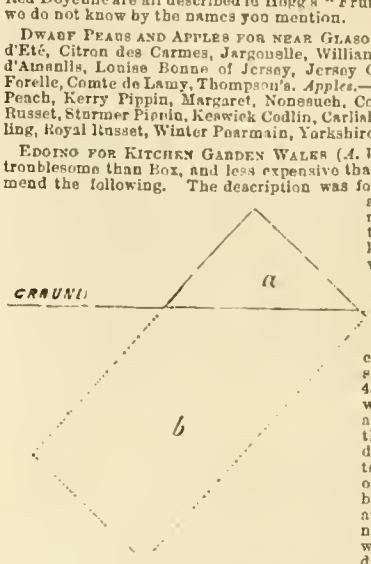
Seedling Potato (*R. Headley*).—In shape the tubers resemble those of the Fluke. They are like them also in flavour, but are more mealy.

Keeping Walnuts (*M. E. Cartwright*).—Put them in layers alternately with damp sand, in jars bunged tightly and kept in a cold cellar.

Pears (*J. Huish*).—Forelle, or Trout; Sucrée Vert, or Green Sugar; Beurré Duval; Doyenné Blanc, or White Doyenné; and Doyenné Gris, or Red Doyenné are all described in Hogg's "Fruit Manual." The other two we do not know by the names you mention.

Dwarf Pears and Apples for near Glasgow (*S.*).—*Pears.*—Doyenné d'Eté, Citron des Carmes, Jargonelle, Williams's Bon Chrétien, Beurré d'Amanlis, Louise Bonne of Jersey, Jersey Gratioli, Monarch, Hessle, Forelle, Comte de Lamy, Thompson's. *Apples.*—Cellini, Early Julien, Irish Peach, Kerry Pippin, Margaret, Nonesuch, Court of Wick, Syke House Russet, Stanmer Pippin, Keswick Codlin, Carlisle Codlin, Dumelow's Seedling, Royal Russet, Winter Pearmain, Yorkshire Greening.

Edging for Kitchen Garden Walks (*A. W.*).—For an edging "less troublesome than Box, and less expensive than terra cotta," we recommend the following. The description was forwarded to us some years ago by Mr. Robson. "For many years I have been in the habit of using common kiln bricks as an edging to walks through dark shrubberies and similar places. These are laid in a diagonal position—one edge and one flat side presenting each an angle of 45° to view, or, in other words, they are laid with an angle-edge upwards, thus — and, being placed deep enough in the ground to allow only about 2 inches of the angular side of the brick to be seen, its appearance is pleasing, and it is not easily moved; even a wheelbarrow driven over it does no further damage than chipping the angles off a little; and sweeping and all the other ordinary work of cleaning a walk only improve its appearance."



a The corner of brick forming the edging.
b The buried portion of the brick.

Vine Grafting.—"A Reader" would be obliged by "R. M. W." stating what degree and source of heat he has used in the production of the Grapes he mentions; if such Grapes are grown upon pole Vines, in borders or pots, and how many rods from each Vine stool, and whether rod and spur or long rod—that is, successional rod—pruned.

Aspect of Vine Border (*E. M.*).—Of the two, east and west, we should prefer an east to a west aspect, as the east is the drier. Borders with a west aspect are very apt to become saturated by the autumn rains coming from the westward.

Mrs. Pince's Muscat Vines (*A. F.*).—Lift them and plant them in the vinery where they can have heat. They will ripen their wood there, which they do not do in your orchard house.

Vine Leaves Blotched (*A Vexed Grape-grower*).—We have examined the Vine leaves carefully and can find no trace of any disease on them. We thought we saw traces of red spider, but even with the help of a magnifier we could not discover it. The blotched appearance of the leaves whilst the wood is green, we attributed to scalding—the effects of accumulated hot vapour in the house—from air-giving being delayed in the morning; but it may rather be the result of your treatment. "We have used sulphur and tobacco-paper for fumigating (grow flowers and Ferns in the house), and in no instance has the sulphur fired. The bed we believe to be in good condition and well drained." What puzzles us here is, that you say nothing about the Ferns, as very slight sulphur fumes are soon felt by them, and the heat that would consume the tobacco-paper, though without burning in a flame, would be too powerful for the sulphur fumes to be safe. In fact, sulphur fumigation should never be practised where there are growing plants. If the plants were near the floor they might escape, whilst the leaves near the roof were affected. We shall judge that one of these caused the evil, if the house was most affected near the apex. The "Vine Manual" will suit you, and may be had from our office, by post, for 2*s.* 8*d.*

Ashes *versus* Tan for Plunging (*E. G.*).—Ashes we consider the better, as they are drier and have an advantage in not harbouring worms. They answer equally well for plunging pots in or for banking-up outside the frame to keep out frost. Tan, however, is a good material for the latter purpose.

Heating with Hot Water (*A. Z.*).—Such a mode, having return-pipes beneath the level of the bottom of the boiler, has been made to answer by having air-pipes from the lowest parts, but it ought never to be tried if it can be avoided. If the pipes cannot be raised, the boiler should be sunk so that every pipe shall be above the level of the boiler. Portland cement will do well enough for the joints of pipes if they do not slope very much. Where there is a great perpendicular pressure we would prefer lead or iron-dlings for joints. The most if not all the joints at Woodhall were made by Mr. Beale with Portland cement, and no joints could stand better.

Extent of Hot-water Pipes Needed (*J. E. T.*).—For your house

span-roofed, 18 feet by 12 feet, you would need at least 90 feet of 3-inch piping. We would prefer 110 or so. We think a terminal saddle-back boiler would suit you best, and if it has a surface equal to 4 square feet exposed to the fire it will be sufficient. For that purpose alone a small one would suffice, but it is well not to have too small a boiler. Almost every bricklayer will set such a boiler well.

Composite Glass-house (*W. T.*)—For such a house to be used in parts, as greenhouse, orchard house, and vinery, we would prefer a span-roof, and to run north and south, or in these directions, so that one side of the house might have the morning, and the other the afternoon sun. Of course, such a house will be colder, more exposed to the weather than a lean-to with an opaque wall at the back; otherwise the span is the best.

Pelargonium (*C. A. G.*).—The name is derived from the Greek Pelargos, a crane, on account of the seed vessel and its appendages resembling the head of that bird. The distinction between Pelargonium and Geranium is fully detailed at page 431 of our last volume. Camellias are best propagated by grafting, the time for doing which is from September until February. The Manetti Rose was named after M. Manetti.

Burning Clay (*W. J. D. P.*).—At page 122 of our last volume there are directions for burning clay for making walks. The same mode answers for improving clayey soils.

Moving Pampas Grass (*H. Garden*).—You may safely remove the Pampas Grass which has been planted nine years, doing so at the end of March, preserving a good ball, and watering copiously in dry weather. A young plant, however, would do better.

White Jasmine Pruning (*Mary*).—It is best pruned at the end of March or beginning of April, but the wood should be kept moderately thin and secured to the wall, so as to have it well ripened. The summer pruning should consist of thinning-out the shoots where too close together, so as to expose them fully to light and air, not shortening them, as the flowers are produced from the points of the shoots. Except in warm situations, the plants do not flower in the open ground. A wall with an east, west, or south aspect is required.

Mandevilla suaveolens Planting (*A Subscriber*).—The stem, for 3 feet of its length, would, were you to plant it in the outside border, be exposed to frost, which we fear would destroy it; besides, we do not think it would succeed, the roots being so much colder than the shoots. We have grown it well in pots, and do not see why you should not succeed well with it grown that way.

Plant for the Back Wall of a Greenhouse (*Edward Barton*).—Probably no plant is so fine for a wall as Luculia gratissima. It is not a climber, but a plant of free growth, and autumn and winter-flowering, the flowers being fragrant. It would not succeed if the roof is much shaded or covered with Vines. An Orange tree would do very well, the flowers being very fragrant, and the fruit very ornamental and useful. You would need two Orange trees and a Lemon in the centre. Those are what we advise. Hoya carnosa is a climber and suitable. The flowers are fragrant. You may obtain them of any nurseryman.

Planting Strawberries (*Novice*).—The plants should have the rows 2 feet apart, and the plants should be 18 inches from each other in the rows, though you may have them the first year half that distance apart in the rows, and then thin out every alternate plant. Being in pots we would not plant out until the beginning of March, taking advantage of the interval to have the ground well trenched, manured, and exposed to the action of frost by throwing it in ridges and forking it over in dry frosty weather.

Coleus Cuttings (*Idem*).—Pot them off into 4-inch pots, and they will make nice plants for table decoration through the winter, and furnish a number of cuttings in spring. A compost of two parts fibrous loam, one part leaf soil, and one-sixth of silver sand will grow them well.

Worms in Pots (*J. A.*).—The plants you name will not bear the lime water. Try the soda solution as recommended for lawns in last week's Journal of Horticulture.

Ink for Zinc Labels (*A Subscriber*).—Sal ammoniac powder, and verdigris, each 1 drachm; lampblack half a drachm, mixing with 10 drachms of water. It forms an indelible ink for zinc labels.

Liliums in Pots (*Idem*).—For three bulbs 8 or 9-inch pots are suitable, 7-inch pots being suitable for single bulbs. A compost of two parts fibrous loam, and a part each of leaf soil and sandy peat will grow them well. Fill the pots half full of soil, then introduce the bulbs, covering about an inch over the crowns. Fill the pots to the rim when the shoots have grown a few inches higher than it. All should be potted forthwith, plunged in coal ashes in a cold frame, and protected from frost in severe weather. Keep the soil moist.

Bulbs, Planting (*Idem*).—All the bulbs you name should be so planted that their crowns will be 1½ inch below the surface, and not more than 2 inches; top-dress with leaf soil an inch or so thick. It will be gone by spring.

Tweedia cærulea Treatment (*J Bayly*).—A compost of equal parts sandy fibrous loam, leaf soil, and sandy peat is suitable, with good drainage. It likes a light airy position, and to be kept dry in winter. Probably you keep it too warm. It only needs a cool greenhouse, or one from which frost is excluded.

Weeds in Gravel Walks (——).—The best plan is to asphalt the walks. It is best done in dry weather, but you may asphalt them at this time of year during dry days. It is well to have a good bottom of rubble, and then cover with 3 inches of asphalt, formed by pouring boiling coal tar over cinders bringing the whole to the consistency of mortar, and when this is spread on the walks and stiffens a little, sprinkle with gravel—spar is best—and when it will bear the roller, roll it firmly. Coal tar answers quite as well as pitch, and may be had at a cheap rate from gasworks. At some it is given away.

Vallota purpurea Potting (Y.).—The best time to repot it is early in spring before the bulbs become active, but potting may be performed at almost all times, except when the plant is growing and flowering.

Names of Fruits (*Centurion*).—Your Pears are pretty correctly named. 1 is Bon Chrétien d'Hiver; 2, Crassane; 3, Emile Bivort; 4, Duchesse de Brabant; 5, Colmar Van Mons; 6, like Belle Après Noël; 7, Doyenne du Comice. (*A Fifteen-years Subscriber*).—1, Hacon's Incomparable; 2, Beurré de Capiaumont; 3, Calebasse Bosc; 4, Beurré Diel; 5, like Beurré Brattoneau. (*Apple Grub*).—*Apples:* Tower's Glory; 2, Bath Apple; 3, Lyscorn; 4, Dutch Fullwood; 5, unknown; 6, too scrubby to recognise; 7, Cockpit; 8, Beurré Diel; 9, Marie Louise. (*W. Pethick, Bristol*).—Your Grape, as far as we can judge from the two berries sent, is Black Alicante. (*E. W.*).—These, unfortunately, had got into confusion ere they reached our hands, the numbers being misplaced, and in most cases wanting altogether, so that we have nothing to enable you to identify them. The Apple is Emperor Alexander, the highly-coloured Pear is Beurré Clairgeau, the long russety one Maréchal de la Cour; another is Beurré Diel, another Urbaniste.

Names of Plants (*Byron, Devon, and others*).—You sent leaves only. (*A. E. J.*).—Salvia Grahami. (*J. Bryan*).—1, Santolina incana; 2, Solidago elongata; 3, Polygonum affine; 4, Lavendula dentata. (*C. S., Bath*).—1, Adiantum tenerum; 2, Pellæa cordifolia; 3, Adiantum capillus-Veneris. (*W. Hodgson*).—Sphagnum cymbæfolium. (*A. Subscriber, Conway*).—Lobelia fulgens. (*A Six-years Subscriber*).—You only furnish us with leaves, consequently we are unable to give you much information concerning your unknown kinds; but Nos. 1 and 4 do not appear to be Ardisias, and the little spiny Solanum, No. 11, we do not know. We should be happy to receive the "Hoya Matotszki" when in bloom; its foliage reminds us of H. paraasitica or H. lacunosa. We should not suppose the variegated forms of Ixora javanica, Thea Bohea, Euonymus radicans, and the common Oleander to be new.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 19th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 13	30.026	29.990	68	34	58	56	W.	.06	Rain; cloudy; densely overcast, cold wind.
Thurs. 14	30.056	30.005	57	43	55	55	W.	.00	Very fine; cloudy, cold wind; overcast and cold.
Fri.... 15	29.783	29.548	59	50	55	54	W.	.00	Densely overcast; overcast; densely overcast.
Sat.... 16	29.368	29.248	58	30	55	54	S.W.	.20	Slight rain; showery; boisterous and cold.
Sun... 17	29.821	29.681	50	30	53	53	N.W.	.04	Very fine; clear and fine; overcast.
Mon... 18	29.488	29.289	49	30	50	52	S.W.	.37	Rain; heavy rain, cold wind; clear and fine.
Tues.. 19	29.862	29.482	47	26	50	51	W.	.00	Overcast and cold; densely overcast; clear and frosty.
Mean..	29.773	29.606	55.43	34.71	53.71	53.57	...	0.67	

POULTRY, BEE, AND PIGEON CHRONICLE.

DORKING BANTAMS.

At the Chelmsford Poultry Show last week were two pens, in the one a White Bantam cockerel, and in the other a pair of pullets, having five toes and all the other characteristics of the Dorking. The variety, for such it is, excited much attention, and seemed to be unknown alike to judges and exhibitors. One of the judges considered them merely as White Bantams with five toes, alleging that every kind of domestic fowl will occasionally throw the fifth toe. But it has been stated that "Bantams of all kinds are merely domesticated varieties that have been reared and rendered permanent by the care of man."

These birds were exhibited by Mr. G. Howes, of Longstowe Hall, Cambridgeshire. He has bred them for about eight years, during which time they have very rarely thrown birds without the fifth toe, and not more frequently than is the case with Dorkings themselves. For the most part they throw the rose comb, both the rose and single comb being common also to the White Dorking.

Mr. Howes has kindly given me the following particulars which are all that he knows of the origin of the variety, or from whence he obtained them. He remembered buying some White Bantams and some eggs, about the same time, from Cambridge and from Lichfield. The man at Cambridge says the White Bantams did not come from him. The man at Lichfield is dead. The latter was a dealer in poultry, but used to have eggs and poultry sometimes from Holland. The White

Bantams were allowed by Mr. Howes to run in a yard with Dorkings.

There is, therefore, every reason to suppose that this is a new and distinct variety of Bantams, which can be called by no other name than Dorking Bantams; and they are as much entitled to it as the Game Bantam, which is the result, in the first instance, of a cross between a small Game cock and a Bantam hen.

The birds exhibited were unusually small, even for Bantams, but they were not well shown as to condition, and the legs of the pullets did not match well.

Perhaps some of your readers may have met with this kind elsewhere, and if so, it would be interesting if they would send to you the particulars of its breeding.

The birds in question, then, may have been produced by an accident, but they have now for several years been reared and rendered so far permanent by the care of Mr. Howes.—GEORGE MANNING.

AUCTION AT THE BIRMINGHAM POULTRY EXHIBITION.

I QUITE agree with Mr. Wood that the time for the sale of birds at Birmingham is too early on the Monday, but I also think Monday is the wrong day for the sale. Clergymen will not perhaps, at least do not like to travel on Sundays; besides, there are many others living at a greater distance than Mr. Wood, who could not possibly arrive at Birmingham in time on the Monday. From this county some will be there, and will go on Monday; they will not be able to be at Bingley Hall before 2.30 P.M., at the earliest, or three hours and a half after the sale is stated to begin. Again, if the sale were fixed for Tuesday, we should have time to look the birds over on the Monday, to make our comments upon and notes for which birds we should bid; it would give everyone a more equal opportunity, and there would be a greater competition.—HENRY P. LEACH, *Woolpit, Suffolk.*

THE LONDON POULTRY SHOW.

THE adjourned meeting for the purpose of receiving a report from the Committee appointed at the last meeting, took place on Tuesday last, Mr. Esquilant in the chair. Mr. Crook, Hon. Secretary, stated he had received promises of money towards the guarantee fund and expenses to the amount of £150. The estimated expenses would be about £450, and the sum expected to be received from all sources would probably reach the sum of £420, leaving a deficit of £30. This, or any further outlay incurred would, of course, have to be paid by the Committee, besides the amount already guaranteed by each member. In this estimate the Committee had entirely ignored the prizes and entries, as they only expected the latter to pay the prizes.

After some discussion as to whether the Committee would be justified in commencing operations, so that a show might be held this year, it was finally resolved that it should take place simultaneously with this year's Cattle Show, and that £300 should be offered for prizes, also that the Corinthian Bazaar, Argyll Street, be engaged for that purpose.

The Exhibition now seems to be thoroughly started, and with every prospect of success; but we hope some more gentlemen will allow their names to be placed amongst the guarantors. It was noticed that not one Rabbit-breeder or exhibitor had his name on the guarantee or prize-list fund. We are surprised at this, especially as we have published so many letters from correspondents complaining of injustice towards their favourites. No doubt they will at once come forward with assistance, or it is likely no prize will be offered for Rabbits.

Mr. F. Crook, Vine Cottage, Forest Hill, S.E., was appointed Honorary Secretary, to whom all communications are to be addressed.

[Since the above was in type we have been informed that the Corinthian Bazaar cannot be engaged on suitable terms, but steps will be taken to secure another place of exhibition.—EDS.]

I REJOICE exceedingly to see in your columns that it is proposed to hold a poultry show in London. While all the large towns and very many small ones hold annually a successful exhibition, London alone has nothing of the kind; and yet in and around London are a host of gentlemen and ladies who take an interest in "cocks and hens."

Within a radius of thirty or forty miles of the metropolis reside several of the leading breeders and exhibitors, and at many a suburban villa may be seen from the passing railway train valuable specimens of poultry. The metropolis can boast every advantage of railway access, and also several convenient localities for a large exhibition. In London reside more than one of the best known poultry judges. Surely, with all these advantages, London may undertake what many a Yorkshire village already boasts—namely, an annual exhibition of poultry. An active and able committee will doubtless make use of all these advantages, and insure the success of a show worthy of the place where it is held.

The week of the Cattle Show seems a very suitable time, and if the locality chosen for the poultry be not far from the scene of the Cattle Show, many who come to see the latter will pay to see the former also. We may count, moreover, upon hundreds, including many of the fair sex, who would never take the trouble to visit a show of fat beasts, flocking to see some of the best poultry in England gathered together for competion in the metropolis.

In conclusion, let me state that I shall be glad to add my mite to the subscription raised for the purpose.—JOHN PARES.

OUR POULTRY SHOWS.

POULTRY shows are just now receiving a large share of public attention and support, and I wish, through the medium of "our Journal," to call attention to one or two things in connection with them, which are unfortunately on the increase, and which must ultimately, if not checked, destroy much of their popularity. I allude to secretaries and committeemen competing for prizes, and to local exhibitors being allowed to compete with the same birds for both local and general prizes. This was notoriously the case at the late Long Sutton Show, where we find a local exhibitor, who is a member of the committee, taking the very modest number of four silver cups with two pens of birds. Now, this is manifestly unfair to the other exhibitors who do not reside within the limits of certain villages near Long Sutton; and why should local exhibitors have two chances of a prize to other exhibitors' one? The time has arrived when exhibitors should make a stand against such practices, and I hope that committeemen generally will see the desirability of refraining from competing, and of confining local exhibitors to local prizes, or most assuredly our poultry shows will not hold their own, as exhibitors will not care to send their birds to any show where these practices are allowed.—JUSTICE.

PRIZES FOR HOUDANS.

IN reference to the suggestion which has been made by some of your correspondents, that a class should be reserved for Houdans separately from other descriptions of poultry, I wish to add my mite of recommendation. Certainly Houdans are worthy of the distinction, whether we regard them as egg-producers or as ornamental poultry merely: and, indeed, while about it, the Crève-Cœurs might also be similarly favoured. The object of the promoters of exhibitions of prize poultry is, undoubtedly, to interest as many poultry fanciers as possible, and omitting to give a separate class for the fowls I have named, will shut out many from participating in the enjoyment which such gatherings afford.—J. H.

JUDGES EXHIBITING AT THE BIRMINGHAM POULTRY SHOW.

I TRUST this year we may be spared the spectacle of judges exhibiting in the poultry classes at Birmingham. Without wishing to impute that anything unfair has occurred in the past, it must be admitted such a proceeding cannot be justified. The judge who exhibits is brought constantly into contact, both before, during, and after the judging, with his brother judges, and however honourable or upright he may be, there are persons who imagine that a hint may be given as to particular birds. This practice has not been in existence more than two or three years, and ought never to have been permitted.—A. B.

THE SOUTHAMPTON POULTRY AND BIRD SHOW.—The entries for this show close on Thursday, the 28th inst. We are informed this will prove one of the most successful meetings of the season.

The prizes have been greatly increased this year; several valuable extra cups are offered, and when it is considered that one pen of poultry has the chance of winning prizes to the amount of £22, there can be but little doubt of the show being well supported. The prizes for Pigeons, cage birds, &c., are good.

DEAR'S GAME CHAMPION CUP.

This cup, manufactured by Mr. J. W. Benson, Ludgate Hill, is of silver, very solid, very handsome, and is gilt inside. The form is Etruscan, and the cover is appropriately surmounted by a Game cock. On one side is this inscription:—"Dear's Champion Subscription Cup, for the best Pen of Black-breasted Red Game Chickens. Hampshire Ornithological Association." This cup will be competed for at the Hampshire Ornithological Association's Exhibition, commencing on the 9th of November next at Southampton. The cup has been subscribed for by some of the most celebrated breeders of Game, among them being Messrs. Dear, Hodgkinson, Stagg, Ames, Fletcher, Gibson, Parkin, Matthew, O'Grady, Russell Hall, Rigden, and Loe.

OAKHAM POULTRY SHOW.

It is far from a pleasant task to criticise the arrangements of gentlemen who undertake the oftentimes thankless work of getting up a poultry show; and yet these criticisms, if given and taken in a proper spirit, cannot but be productive of good. I remember last year that complaints appeared in your Journal respecting the Oakham Show. It is clear, from the notices in the prize list just issued, that the committee are anxious not to give occasion for grumbling this year; and yet I would suggest that in one respect there is room for improvement—namely, in the time the birds are expected to remain at Oakham. They must be there not later than 7 A.M. on Tuesday, the 23rd—*i.e.*, they must travel, if sent from any distance, on Monday, and they must remain until 9 A.M. on Friday, the 26th—*i.e.*, they will not return home until some time on Saturday. Only those who have shown good birds know what this means, and as an exhibitor who has won a very fair share of prizes this year, I can assure the managers that I should not think of exposing my birds to the risk such a lengthy detention involves. Why not have them in on Tuesday evening, judge them on Wednesday until one or two, and send them home on Friday evening?—A Prize-Winner.

CHELMSFORD POULTRY AND PIGEON SHOW.

Under the skilful management of a very careful Committee, this meeting has greatly increased in public estimation; so much so, indeed, that the number of pens exhibited this year was nearly double that of only a couple of years back. A single glance at the printed catalogue shows that poultry and Pigeons from almost every principal breeder in the kingdom were entered for Chelmsford. In the hope—though it indeed appears almost time and trouble misapplied and disregarded—of directing the attention of owners to the folly of forwarding birds by the last train, we again record that a very large number of excellent pens were delivered at the Chelmsford Corn Exchange considerably after midday, and consequently long after the Judges had returned their awards. As many of these pens had travelled several hundreds of miles to the Show, the money loss to the owners must have been very considerable, and the vexation still greater. We again urge, "*never trust to the last train for the transit of poultry to any exhibition.*"

Although the Corn Exchange is large and exceedingly well adapted for the purposes of a poultry show, this meeting promises ere long to quite exceed the dimensions of the building. This year, having a double tier all round, and a double tier of pens placed back to back down the centre, was unavoidable, so great was the increase in the number of the competitors; and the general appearance of the Show on entering was unusually excellent.

Grey *Dorkings* were the first class in the catalogue, and they afforded quite a treat to any breeder; they were, in fact, throughout superior. The *Game* classes were good, the Black-breasted and other Reds more particularly so. The Buff and Partridge *Cochins* were much superior to the White ones, with the exception of a few special pens of the latter. The *Spanish* were the best classes of chickens we have seen this season; and in respect to the *Brahmas*, whether Light or Dark-feathered, it is impossible to speak more highly than they deserved. Forty pens of Light Brahmas were exhibited. Although somewhat select as to numbers, the *Hamburghs* were generally good. The *French* fowls had a class to themselves, which was remarkably well filled, some of the chickens being exceedingly early and well matured. The Game *Bantams* of this year greatly surpassed any that had been shown at preceding Chelmsford shows. It was in *Ducks*, *Geese*, and *Turkeys* that the highest position was attained, and as it may interest many of our readers, we give the weights of the heaviest pens. The pens each consisted of a pair—male and female. Turkeys, 31 lbs. 9 ozs.; Geese, 44½ lbs.; Aylesbury Ducks, 16 lbs. the couple. Any of our readers who can remember the poultry of some thirty years back, will thus be able to estimate the important national benefit that has arisen from exhibitions as regards the utility of poultry for table purposes, altogether irrespective of the home pleasures of their production, and the even greater satisfaction of seeing the best breeds in the country in open competition, side by side.

The *Pigeons* were, without doubt, a chief feature of the Show, and though the bulk of them were in heavy moult, a number were in plumage that could not have been exceeded even at spring time.

Another unusual feature of the Show was a class for pairs of dressed chickens, and a similar one for Ducks. We append the weights of three pairs of each as they lay for exhibition:—Chickens, 14½ lbs., 13 lbs. 15 ozs., and 13 lbs. 10 ozs. Ducks, 10 lbs. 10 ozs., 10 lbs. 1 oz., and 9 lbs. 13 ozs.

The day of the Exhibition was remarkably fine, and the attendance was most satisfactory. We published the prize list last week.

(*From a Correspondent.*)

Dorking cockerels stood first, but these hardly seemed to be so good as I expected to find them. The pullets were decidedly better. *Game* were next. The Rev. F. Watson was first and second with two capital birds. I preferred the second one, as he appeared to be a more promising bird, but the difference was so slight that it must have puzzled the Judges on which to decide. *Cochins* were numerous and good. Mrs. Woodcock's two Buff pullets, and Mr. Sidgwick's cockerel and two pullets in the "Any variety" class, were especially worthy of notice. Mr. James was first in *Spanish*, with a splendid fellow possessing a beautiful white face, good comb, very long in the ear-lobe, and in capital feather. The second was also a very good bird, but slightly deficient in the comb and almost without a tail. Pullets were good, but the second prize was awarded to birds hardly deserving of it. Those highly commended were certainly whiter and larger-faced than their more fortunate rivals. This breed does not appear to be very fashionable in Essex, for out of the thirteen pens exhibited nine were sent from London.

The pride of the Show were the *Brahmas*, which were magnificent; they alone were worth the journey to see. Many only mentioned here would have gained a prize elsewhere. The first-prize Dark cockerel was hardly in feather, but he will make a grand bird. The Dark pullets were equally good. In the Light class a silver cup was offered for the best cockerel; this was awarded to Mrs Williamson's beautiful bird. For Light pullets, Mr. Crook was first with two which were very handsomely marked. I did not notice one bad bird in the whole of the Brahma class.

Hamburghs were few in number. Mr. Pickles took the first prize for pullets, Silvers. These would have been perfect if a little lighter. In the *French* varieties I noticed a cock which was certainly not hatched in this year, whose age was stated in the catalogue to be eight months. I was glad to see written on the ticket number, "disqualified—old bird." In the class for "Any distinct variety," pullets, were some good Polands. These arrived "too late for competition." What a pity it is to find exhibitors waiting until the last train, and after all the expense and trouble, shutting themselves out of the competition.

The Black and Red *Bantams* were a fine class, especially the first-prize bird, which by-the-by had a narrow escape of losing the prize, and, perhaps, his life. He belonged to Dr. Webster Adams, of Ipswich. On the doors being opened to the public in rushed that gentleman to see what prizes his birds had won. Judge his surprise on finding no bird in the pen. He soon commenced making inquiries, but was told it had not arrived. The doctor knew better. He hunted for the basket, which was soon found beneath the pens. There was the bird alive and well, and a little beauty he was. Had not Dr. Adams been present, he would undoubtedly have lost the prize and, perhaps, the bird. How careful ought Secretaries to be in ascertaining if all the baskets have been examined, especially when there is an empty pen. Game Bantam pullets were also good.

Rouen *Ducks* were very good; the first-prize pair were very large and in excellent condition. Aylesbury Ducks not quite so good. Some of the *Geese* were immense. *Turkeys* were a good class.

In the selling classes there were to be found some excellent birds, equal, if not superior, to some of those which had been awarded prizes.

Pigeons made a good show, far better than at any other exhibition held at Chelmsford. For Carriers, Mr. Wiltshire was first with a splendid bird. Ponters were hardly in feather. Here Mr. Fulton was first, as he was in Tumblers. Jacobins were uncommonly good, particularly Mr. A. Van der Meersch's Reds, which were first. Fantails were numerous and good; Barbs a magnificent lot; Trumpeters a very good class. In the "Any variety class" there were some beautiful birds.

This was a very well-managed Show, the birds were well fed and looked after, but I must condemn the system of allowing certain privileged people to claim birds before shows open. Before the public were admitted many birds had been disposed of. This, to say the least, is very unfair, and will, no doubt, be rectified in future years. Now, a question as to committees generally. How is it they take so

long in sending the prizes after the show is over? From some shows held more than two months ago, the prize money has not yet been sent, nor even the money for birds sold at the time. This is very unbusiness-like.—An Amateur.

TASMANIAN POULTRY SHOW.

The fifteenth annual show of poultry and song birds, held under the auspices of the Tasmanian Poultry Society, was opened August 10th in the Town Hall. The Show was one of the largest yet held in Hobart Town, and the spacious hall and ante-rooms afforded abundant space for the proper display of the exhibits without inconveniencing the promenaders.

Including those sent in for exhibition only, we counted over 270 pens and cages in the Show, a great display for Hobart Town. The exhibits embraced fowls of every class, Turkeys, Geese, Ducks, Pigeons, Canaries, and song birds in great variety, besides Pheasants, Rabbits, and miscellaneous live stock, including a kangaroo.

Beginning at the hardoor department, *Dorkings*, *Black Spanish*, *Cochin-Chinas*, *Brahma Pootras*, and others of their kind were exceedingly well represented, and many of the specimens were of the very first quality, the prize-winners in the respective classes being greatly admired. The Shanghaes especially were in excellent feather, of good colour, and perfect wonders in size. They reminded us of the first specimens of this kind of fowl shown in Hobart Town, which were entered some years ago by Mr. Thomas Paterson, a gentleman whose name we were sorry to miss from the entry list. The *Game* fowls exhibited were below the average, and for these birds, which have generally formed an attractive feature of the show, the season seems to have been somewhat unfavourable. The *Game Bantams*, particularly the Duckwings, were exceedingly beautiful, and formed a most attractive feature of the show; they were in very fine plumage, and nearly all worthy of honourable mention. There were nine pens of *Turkeys*, but we cannot refer to them as of more than medium excellence. One pen of pure white, being curiosities in their way, were greatly admired.

The waterfowl were not very numerously represented. A couple of pens of very fine *Geese* were shown by Mr. Perry, being hybrids, the produce of the African Geese imported by Mr. Graves, and the good old grey Goose of England. Mr. Perry was the fortunate purchaser of a pair of African Geese at the Peoples' Auction in aid of the Franklin Island Fund, and the noble birds shown represent a portion of the profits of his speculation. There were two or three pens of Aylesbury Ducks shown, but we cannot speak of them very highly; they were of good size and pure in colour, but their condition did not entitle them to rank as first-class specimens of this famous breed. A pair of very pretty Maori Ducks, exhibited by Mr. Alderman Belbin, attracted a great deal of notice, and were much admired. Before leaving the waterfowl, we must not omit to mention a pair of very fine Cape Barren Geese exhibited by Mr. J. W. Graves. These beautiful creatures are natives of Cape Barren, and are peculiar to the region of Bass's Straits. They are now becoming almost extinct, and it is to be regretted that some protection is not afforded to them by our Native Game Act. They are remarkably docile and affectionate, and the gander shown, who rejoices in the name of Darby, follows his owner about like a dog, and perambulated the room several times, allowing the children to pat and make friends with him.

The Hon. Mrs. Du Cane was the exhibitor of three fine English Pheasants, a cock and two hens, which were much admired.

The Pigeons were a great feature of the show, and there were upwards of seventy cages exhibited, embracing nearly every variety: Baldheads, all colours; Yellow Beards, Blue Beards, Pouters, Tumblers, Turbits, Almonds, Carriers, Archangels, Jacobins, Barbs, Nuns, Kites, and others in variety too numerous to particularise. A pair of Lachlan Pigeons, exhibited among the Doves, resembling a good deal the Crested Pigeon of the marshes, were very greatly admired. In the first ante-room there were twenty-six cages of various song birds and Parrots, and twelve pens of Rabbits.—(*Mercury.*)

RABBITS AND THEIR VARIETIES.

I have been from home, but on my return, upon looking over "our Journal," I was delighted to find so much information had been given in reference to both Rabbits and their judges; all tending, I hope, to bring about a more satisfactory state of things. If this should be the case, the result will be an increased number of entries at all shows where it is known that a competent judge will award the prizes. I have been much pleased with the valuable information given in these pages week after week respecting poultry, Pigeons, and bees, and as regards these, various points in dispute seem now to be permanently settled. For instance: the Houdan controversy respecting his red feathers, or his having only four claws, is now quite understood; and of Pigeons, the points are now fully understood, and the stamp of perfection must be upon the birds before they can be at all in favour with the judges whose critical eyes detect the least defect. I would ask, How is it that such a knowledge of the points of merit is acquired? I would give the old-fashioned but true answer—"By study of the subject." When fanciers of Rabbits can feel the same confidence as those of poultry or Pigeons in sending their pets to shows, they will be satisfied, and when as much intelligence shall be brought to bear in discriminating the good qualities of Rabbits as in the case of the feathered tribe, their owners will have to be very thankful. I trust this enviable state of things is not far distant.

I am glad to find so much interest excited on behalf of Rabbits, and am quite certain good must result from what we have seen and heard upon the subject during the last few weeks, and I feel confident that all committees for their own sakes will see the importance of appointing a competent judge for the Rabbits, irrespective of his knowledge of poultry or Pigeons, be that extensive or limited.

Some allusion at times is made to the points of excellence, and the peculiarities of different kinds. The "Lops" I am glad (as I am sure many others will be) have been ably described by Mr. Hudson, and I now venture to say a little in reference to the other varieties.

If I had to attach some distinctive words by way of appellation, to each variety, they would be as follow:—The Lop-eared I should designate graceful; the Patagonian and Belgian Hare Rabbit as majestic or noble; the Angora as showy; the Himalayan as neat; the Silver Grey as of a mercurial temperament; and the Dutch as pretty. Now, all these I keep and I have carefully noticed their peculiarities. About three hundred are born in my rabbitry every year. I shall refer to them alphabetically.

The Angora, originally from the town of that name in Asia Minor, is of a kindly disposition, and the doe very proud of her young. At times I think no sight can be more pleasing to a Rabbit-fancier than to see a pure white doe with her equally white and silky family around her. I do not quite incline to the belief that the buck of this variety is so fretful as represented when separated from the doe, neither do I feel quite sure as to the safety of the young ones just born, if the buck is left with them; not that he would destroy them in so savage a manner as bucks of other varieties, yet I think the chances are that many would be trampled to death. As the result of my experience, I recommend that the parents be separated until the young are at the least six weeks old, especially if you would have quality instead of quantity. There is not that distinctive feature as to the markings of colour as in some other varieties, the important point being length and silky quality of hair irrespective of the markings. White seems to be the favourite colour, yet it is not the point to insure a prize if the hair is not of the proper length and quality, and I have seen black and white, blue and white, grey and white all first-prize winners, possessing the other requisites—namely, length and silky quality of hair. The hair, on the Continent especially, is made of commercial importance, and I have met with both French and Germans who have done a rather large business in this commodity, and in which I am sorry to say the poor Rabbits have to be painfully interested by having the hair torn from their backs three or four times a-year. I would recommend the torturers of such innocent-looking pets to cease such cruelty, and to the attention of the Society for the Prevention of Cruelty to Animals. Perhaps the best method of removing the hair when matted, which is generally the case when many young ones run together, is by means of an iron comb (dressing comb), removing a little at a time, and in a few days the old fur will be gone, and the second will not again become so awkward to manage, especially if attended to every few weeks. Thus the Rabbits are always smooth and fit to exhibit, and the hair becomes longer with age, and may be used for a variety of purposes if the skin is properly cured.

The Belgian Hare variety is an excellent breed for table purposes, and may be reared to a large size. I have them weighing 10½ lbs. The marking is unlike that of the ordinary grey common Rabbit, as some darker shade of hair seems spread over the body, giving the animal a more rich and mottled appearance, and in general resembling the Hare. I find this breed rather delicate to rear, especially in very hot weather. The doe is prolific, eight or ten being the usual litters I have. These Rabbits are imported from the Continent, and more especially from Belgium. The doe seems rather more wild than with some other varieties, and easily frightened. I have known the new-born litters quite forsaken at the appearance of a mouse in the hutch, or on a loud peal of thunder being heard. Most of the other varieties are alarmed by the

same causes, but I think this variety more nervous than the rest.

The Patagonians I will now speak of as in some respects the same—that is, as being a large animal, yet not at all the same variety. They are at times spoken of as Flemish Giants, Ram Rabbits, &c. They attain from 15 lbs. to 18 lbs. weight, and are of two shades—grey, and the so-called cream shade. The ears are long, and not decidedly either lops or erect, but seem to hang loosely. The disposition of this Rabbit is kind, and I have often seen a small Dutch buck chase a Patagonian one round the enclosed court-yard and try to provoke the "giant," compared to itself, to fight. The does are not the most prolific, and I do not generally obtain from them more than three litters in a year. The Belgian Hare Rabbit doe and Patagonian buck produce some excellent specimens for the table, and when kept for this purpose I know of no Rabbits more profitable.

I shall, ere long, say a little about the Dutch, Himalayan, and Silver Greys.—Charles Rayson, *York Mount, Prestwich, near Manchester.*

THE HONEY HARVEST IN NORTHUMBERLAND.

This year has been somewhat peculiar with respect to bees in Northumberland. Swarming commenced in the end of May; such swarms going on rapidly threw off what we call virgin swarms, several top swarms throwing off two and three each. Here a virgin swarm is thought remarkable: hence, this season is considered an extraordinary one in this respect, and also for fly-away swarms and queens which could not fly at all, and yet we have not on the whole an average number of swarms. A sudden change in the weather at the beginning of June seemed to put a stop to swarming. Hence we have more than an average number of old stocks unswarmed, and many swarms too late to do well, yet the flower honey harvest has been good. Good supers have been taken off non-swarmers and early top swarms, and about an average number of hives were sent to the moors at the end of July and beginning of August. Two weeks of cold weather put an end to the weakest hives, and considerably lightened the whole; then for nine or ten days we had a grand bloom on the heather and weather unprecedentedly fine, but the time was too short, for the result is, that more than half the hives on the moors are lighter than when taken there, and ten per cent. of the bees dead. Those which have entered the supers have mostly only a few leaves of half-filled and unsealed comb, emblematical of good intentions being cut short by the rains which fell when the heather was in its prime. I have heard of a few supers weighing 20 lbs. and one 30 lbs., nicely sealed. These I set down for the hives which, being strong, filled their supers from the weak ones unable to defend their scanty store.—George Wilson, *Whalton.*

SPURIOUS HONEY.

I was glad to read in the number of October 14th the letter from Mr. A. Pettigrew, of Manchester, on "Spurious Honey." I am sorry to say that the practice of filling up honeycomb for sale and exhibition is very common, both in England and Scotland.

I have been a bee-keeper nearly twenty years, and I never could accomplish the massive weights of supers and bell-glasses that I see exhibited. The situation of my apiary is perhaps as good as any in Lancashire; it is on the borders of the river Tame, and there is no better land in the county. I know a person who exhibits honey, and who has taken several prizes with large bell-glasses weighing upwards of 40 lbs., and supposed to be gathered in a district which I consider one of the worst in the county, and he presumes to make people believe that bees can gather honey from land poisoned by the smoke of large towns, and amongst manufactures of the most filthy kind, such as chemical works, and where others to my knowledge have been compelled to remove their works owing to the intolerable stench. I say if bees can do well in a locality like that, they can do better than mine in a healthy neighbourhood. My bees this season have made up my nine bar-and-frame hives to about 30 lbs., and given me a bell-glass of from 5 to 10 lbs. each. I could not get more from them.

I am very glad Mr. Pettigrew is exposing the system of selling sugar and water instead of honey. I have often doubted the purity of large glasses, but I should be very sorry to charge anyone with so dishonest an action. I should like the committees of our poultry shows to offer prizes for bees and honey; their doing so would be the means of encouraging bee-keeping, which would be a profit to the working man at a very little outlay. Consider the tons of honey lost upon the heather from the want of bees being taken to it to gather the pollen. I know several working men who by their bees and honey make the rent of their house and something to spare. At the Middleton Show this year there were nine entries of bees and honey, and this department of the exhibition was an attraction to many. The first year I was judge of bees there, we had only two entries, but the number has increased year by year. The first prize this year was £3 for the best collection of bees in the hive, and £1 for the best collection of honey.—South Lancashire Bee-keeper.

REGICIDE.

I wish to ask my brother apiarians if they have ever met with a similar misfortune to that which has just befallen me.

Being about to join two hives of bees and wishing to select the best queen of the two, I proceeded to find them. Having secured No. 1, I placed her with a few workers in a small box. I then found No. 2, and as I was taking her off the comb I dropped her into the hive; the bees immediately set upon and killed her. I then, after an absence of only five minutes, placed No. 1 on the alighting-board of her own hive; she was also seized upon, and although I at once got her away from her disgraceful people, she also died in about ten minutes.

The supposition might be, that I had changed queens, but this I am quite positive I did not do, as queen No. 2 was just over her own hive when I dropped her into it, and, of course, had not left them half a minute. Can anyone account for this? Only a day or two back I introduced a Ligurian, kindly sent to me by a friend, and she was at once accepted without the slightest manifestation of resentment. Of course, after this experience I shall never attempt to return a queen until after a few hours' absence.—T. B. H.

[We should fancy that in both these cases the regicidal attacks were initiated by robber bees, which at this season seem to be constantly on the alert for plunder the moment a hive is opened, or an operation attempted. It is certainly very unusual for bees to attack their queen after a brief absence. The only similar instance which we remember to have seen recorded, was related by Mr. Woodbury, in page 366 of the third volume of our new series.]

QUEEN CELLS IN AUTUMN.

I drove two stocks of bees a fortnight ago and put them together, taking the best of the combs, and fixing the others in a frame hive. I have since been feeding them to make up weight, and the other day took off the fastenings from the combs, when to my surprise I found on one of them five queen cells with young queens in all, but no brood in any other comb. Is it not unusual at this time of the year?—M. A.

[The construction of royal cells at this season shows that both queens were killed in uniting the bees. As no young queen can now be impregnated owing to the want of drones, the survivor must be removed and a fertile queen substituted, or the stock will inevitably come to grief.]

NEW PUBLICATION.

The Animal World: A Monthly Advocate of Humanity. No. 1. Oct. 1, 1869. Price Twopence.

We welcome most heartily the above new publication. It is just to our taste, and likely to promote kindness to animals, and prevent cruelty. "The Animal World" is published by the Royal Society for the Prevention of Cruelty to Animals, a Society which since its foundation in 1824 has done an infinite deal of good by the prosecution of persons guilty of flagrant acts of cruelty, and also has prevented much evil by the fact of its existence being known, for it has been a terror to the evildoer. The costermongers, the donkey-keepers, the goat-drivers, have been taught that they cannot treat cruelly their animals with impunity. But it is not enough to punish the cruel, it is necessary to train the young to kindness. A child will tear off the wings of a fly; a boy, or girl alas! as we have known, will torture young birds; and thoroughly bad boys will ceaselessly pelt with stones poor stray dogs. Then there

is a cruelty which is not thought to be cruel, the cruelty of carelessness; as Thomas Hood truly said—

"Evil is wrought by want of thought,
As well as by want of heart."

Now, to train for good and check cruelty comes this excellent serial, which, from its size, that of the *Pall Mall Gazette*, its letterpress, and, above all, its excellent pictures and low price, will we are sure, if future numbers be equal to the first, be certain to obtain a wide circulation. The October number contains an article, illustrated, on the horse; one on monkeys, by Frank Buckland; a serial story of "The dog which found a lost child," by Mary Howitt. We have poetry as well as prose, practical articles as well as narratives, cautions against cruelty, exposure of the cruelty of the bearing-rein—in short, we have sixteen pages of useful, pleasing, and instructive matter. The Bishop of Gloucester and Bristol, who took great pains to get three humane clauses added to the Contagious Diseases (Animals) Act, contributes an excellent letter on the humane education of children.

To this first number of "The Animal World" is attached a supplement, giving a short history of the Society for the Prevention of Cruelty to Animals, and a full report of its forty-fifth annual meeting. The report and speeches will well repay perusal.

We earnestly recommend heads of families to take in "The Animal World," and be sure and let it find its way into the kitchen. Clergymen could not do better than take a monthly bundle of six (only 1s.), for their schools; first for the children, and then to be spelled through by the ploughboys and others by the winter fireside. Seriously and thoughtfully do we say, God speed the course of "The Animal World," and may its motto, from Coleridge's "Ancient Mariner," find an echo in its readers' hearts.

"He prayeth well who loveth well
Both man, and bird, and beast;
He prayeth best who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all."

—Wiltshire Rector.

OUR LETTER BOX.

Middleton Show (*C. Sidgwick*).—Messrs. Mason & Walker wrote to inform us that the prize was awarded, and had been paid to them.

Malt for Fowls (*H. B.*).—Malt would be too stimulating if it were given as regular food. Fowls are very fond of it, and will eat it to excess. It has the property of making the eggs taste of it, also the flesh if the fowl be killed while it remains the daily food.

Breeding from a Cockerel (*Idem*).—If the bird is desirable in other respects, his age is not the slightest objection, provided he is not less than nine months old.

Breeding from Sitters and Non-sitters (*Idem*).—It is desirable to rear poultry, although intended for table purposes only, at the least cost and with the least trouble. For this reason we always oppose the mixture of sitters and non-sitters. They are capricious sitters when they are thus bred, and many an amateur knows the vexation of being told a day or two before the chickens should be hatched, that the hen has been off her eggs all day. We cannot imagine what fowls you would like to cross, unless it were Brahmas and some of the French breeds. We would rather have the former pure, and if we wanted some other sort we would put a few French eggs under a Brahma hen, and eat the two breeds pure. We are not friendly to crosses, and have seldom seen much good done by them.

Dari Corn (*G. B.*).—We do not know the Dari corn. Some of the Indian grass seeds are called Doora. Indian corn makes birds very fat. You have been correctly informed, it makes them very fat internally, enough so to impede the action of the intestines. It makes, to use the verdict of a very learned man, neither "osmazome nor fibrine." It makes little lean, and that which it makes is dry, hard, and black. We do not admire any of these expedients for cheap feeding. We find that which costs little money yields little nourishment. We will feed our birds on good oat and barley meal, and will allow anyone to try the new discoveries—rice, damaged raisins, different foreign corns, biscuit, all the various pastes, with the conviction we shall not only have the best condition, but that ours will be the least expensive.

Feeding Brahma Pootras (*T. S. J.*).—We said "eschew potatoes" because our experience was unfavourable; they have a tendency to produce internal fat, and they almost always produce the luxury called a fat liver. When this goes on, adieu to all condition and health. The fat increases, but the weight diminishes; the skin becomes hard, brown, and dry. All the nourishment is absorbed by the liver, which increases daily, until it is almost the most valuable part of the fowl. We disapprove altogether of your mode of feeding. We should do away with the wheat and oats; we will allow you to give two meals of potatoes every week. Substitute barley or oatmeal for the potatoes and sharps. Do away immediately with your trough; you will never make heavy birds if you allow them a trough. Feed by hand, and throw the food broadcast. If they come close to you, drop some choice pieces for them. Add to the dietary we have given above some cooked meat chopped fine; in very wet or damp weather give a little ale.

Fowl's Legs Scaly and Warted (*Idem*).—It is impossible any birds can be healthy, kept on a wooden floor, and the legs and feet are the first parts affected. In a state of nature a fowl, like a Pheasant, Grouse, or Partridge, walking on the earth clasps each step by driving the claws into the earth; the foot sinks into it at the same time. If the bird wants to scratch, there is nothing to hinder. It finds food and amusement; it meets with all that is necessary for health. On a board the foot is always kept stretched out. The ends of the nails cannot penetrate the boards, the foot is kept in an unnatural position, and lameness is the result. Apply salad oil freely to the spots on the legs, then rub the places affected with compound sulphur ointment. Feed on oat and barley meal. Give up wheat and oats. Let them have a little cooked meat chopped fine, and, above all, if they are to remain where they are now, cover the boards with at least 6 inches of gravel and road sand. Give them some sods of growing grass. It is utterly impossible to have fowls healthy if they are kept on clean boards.

Fowls not Laying (*M., Chichester*).—Hens will not regularly lay in the winter; only pullets can be depended upon to do so. You should therefore keep some early pullets every year to provide you with eggs in the winter. As a rule fowls do not like oats, and we expect they do better on what they pick up than they do on your hand-feeding. That which is worth doing at all is worth doing well, and to get eggs in the winter is to do fowls well. You must feed differently. Have your oats ground fine—so fine that the meal will make dough like flour. You must take nothing from it, but grind husk and all. Give them some whole barley for a change, and once a week a few boiled potatoes. If you will feed in this way, and keep some April and May pullets every year, you will have eggs all through the winter. We look with suspicion when you say they roost in a loft, and are closely packed in a room 12 or 14 feet square. There is not room enough. There is the bad wooden flooring, the difficulty of access and egress. They should roost on the ground floor, and the more room they have the better.

Sale of Poultry (*Idem*).—With regard to the sale of poultry, we have always considered our own columns as the best medium, and we believe if they were more used for that purpose amateurs would find sales promoted by it. There are generally buyers for good birds at fair prices if publicity is given to the fact they are to be had. How often do we hear from a neighbour, "I wish I had known you had such things for sale. I have been seeking them a long time, and only bought them last week."

Dorking Cockerel Declining (*P. D'Anson*).—We fear he has some of his viscera ulcerated, in which case no treatment could save him. If he is only weak, bread soaked in ale given twice a-day, and a dessert-spoonful of cod-liver oil once daily, may restore him.

Turkeys' Legs Failing (*C. R.*).—Neither gout nor rheumatism is affecting their legs, but either painful weakness or cold contracted from a very damp or ill-fitted roosting house. A roosting house with a very damp clayey floor will cause it, or a brick, stone, or wooden floor. These are the most fruitful causes of swollen knees. Bad and irregular feeding will cause weakness, and Turkeys are very subject to large knee-joints. It seems their place of weakness, to which all mischief runs. Give them freely bread steeped in ale, and administer some camphor, two pills the size of a pea. Put some camphor in their water.

Tumblers not Flying (*E. S. Polkinghorne*).—As the plan we advised you to adopt does not seem to answer permanently, there is nothing left but to drive your Tumblers up by pelting at them, say pieces of mould or turf, or any substance which would not injure them or break windows; at the same time not letting them grow fat by over-feeding. As your house is awkward for flying Tumblers, why not try the higher class, the Shortfaces? You would find that beauty of form and feather would amply compensate for tumbling, and you could keep them confined. Or Antwerps would suit you. Remember, that only after being long shut in will any Tumblers take extraordinary flights, and these have been magnified both by word of mouth and in books.

Summer Rape for Seed (*Marian*).—Seed called summer rape is grown in Germany. It is little used in this country, and the most likely place to procure it is at Mr. Hawkins's, dealer in birds, Bear Street, Leicester Square. You would find English rape and Canary seed, with chickweed and plaintain occasionally, the best food for a Linnet.

Canaries Consumptive (*M. Y.*).—"The symptoms—panting, becoming thin, and losing colour, are those of rapid consumption, a disease to which the Canary is only too liable. It is incurable, and though its miseries may in some cases be alleviated, it eventually claims its victim. It is so certain in its attack, that no man of any experience would buy a bird with any 'pant,' knowing full well that the breeding season or succeeding moulting time would end its days. I have before expressed my opinion, that the great cause of disease in Canaries is a disordered stomach, and many ailments eventuating in a sickness, the prominent features of which are, 'the birds ruffle their feathers, put their heads under their wings, pant, are reduced to skeletons, and become discoloured,' might be averted by a timely dose of castor oil. I believe that really very little is known about the diseases of birds. I am quite open to confess that I am a poor bird-doctor, but my castor-oil bottle is the chief feature of my medicine chest, and I lose as few as my neighbours. —W. A. Blakston."

What are the Advantages of Ligurian Bees? (*G. B.*).—"Good temper, beauty, and fecundity.—Devonshire Bee-keeper."

POULTRY MARKET.—October 20.

A moderate supply and a somewhat improved trade have improved the aspect of our market. Should the present change in the weather continue we may look for better prices.

	s. d	s. d
Large Fowls	3 0	to 3 6
Smaller do.	2 6	3 0
Chickens	1 9	2 0
Geese	6 0	7 0
Ducks	2 0	2 6
Pheasants	3 0	3 6

	s. d	s. d
Partridges	1 4	to 1 6
Grouse	2 6	3 0
Pigeons	0 9	0 10
Hares	2 6	3 0
Rabbits	1 4	1 5
Wild do.	0 9	0 10

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 28—NOVEMBER 3, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years. Days.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises. m. h.	Moon Sets. m. h.	Moon's Age. Days.	Clock after Sun. m. s.	Day of Year.
28	Th	St. Simon and St. Jude.	54 5	35.9	45.2	26	48 af 6	39 af 4	4 af 11	52 af 1	☾	16 8	301
29	F	Length of day 9h. 47m.	53.8	35.6	44.7	20	50 6	37 4	morn.	28 2	24	16 12	302
30	S		54.9	38 2	46.6	22	51 6	36 4	19 0	59 2	25	16 15	303
31	Sun	23 Sunday after Trinity.	53 8	40.0	46 9	22	53 6	34 4	38 1	27 3	26	16 17	304
1	M	All Saints.	54.3	37.7	46.0	24	55 6	32 4	0 3	54 3	27	16 19	305
2	Tu	Michaelmas Term begins.	54.4	37 3	45 8	19	56 6	31 4	23 4	19 4	28	16 19	306
3	W		53 5	35.5	44.5	19	59 6	29 4	48 5	45 4	●	16 19	307

From observations taken near London during the last forty-two years, the average day temperature of the week is 54 2°; and its night temperature 37 3°. The greatest heat was 67°, on the 31st, 1854; and the lowest cold 22°, on the 28th, 1836; and 1st, 1866. The greatest fall of rain was 1.03 inch.

DECORATIONS OF AUTUMNAL LEAVES.

"'Tis but a whim—but oh! entwine
These leaves around that brow of thine.'

SO said my cousin Nelly—and I did so entwine them, and that wreath of mingled Fern and Virginian Creeper leaves was more admired—deservedly admired—than any other head-gear that night. Why are not autumnal-tinted leaves more used for purposes of personal, and room, and table-ornamentation? They can be rendered long-enduring, and

'These leaves are tinged with beauty far above
Spring's gayest hues, or brightest, freshest green:
Their blending shades of every tint are seen;
Pale amber, half transparent in the ray
Of the bright sun; brown, red, grey,
Varied in hue and form, bestrew the way.'

"Now, I dare say that you dry old Editors will pooh-pooh this, and feel disposed to put all into your Balaam-basket, and designate it 'the romantic stuff of a school girl;' but I do ask you not to pooh-pooh it, and as I am nearer to twice 'sweet seventeen' than there is any necessity to be told, it is not 'school girls'' sentimentalism, and many would be pleased with information on the subject besides—Myself.

"P.S.—I want such information as will enable me to select leaves—to be told what is their colour in autumn, and how to fasten them."

[Now, is not that truly a woman's letter? The sole object for which it was written is in the postscript, and she ventures to pen-buffet those from whom she asks aid. How near to being "old Editors" we are we do not recognise that "there is any necessity to be told," and as evidence that we are not "dry" even on autumn leaves, we add the following from an American contemporary:—

"Foreigners are deeply impressed with the autumnal splendour of our American forests. This gorgeous colouring of the ripened foliage, which is much more brilliant with us than in other countries, sets the deciduous trees in vivid contrast with the sombre-hued Firs and Pines, and makes of the most ordinary landscape a charming picture. A portion of this splendour, which in autumn is lavishly scattered abroad, we may rescue awhile from decay, and, brightening with it our in-door life, fill the dark days of winter with light and beauty.

"Since an observant American woman has taught the Parisian belles how becoming our autumn leaves are to dark-haired ladies, and thus created a demand for this foliage as a personal decoration, its wonderfully-varied tintings have been more generally noticed and admired; and many attempts are made to retain this beauty, which, when properly preserved and managed, gives elegance to the humblest apartment.

"Though a few trees may ripen their leaves in August, it is not till the middle or last of September that we can obtain them in variety; while even as late as November we must wait for some species. Then, whether we pick them from the ground, or cut twigs and branches from the trees, only the most perfect in form, and the clearest in their hues, and the most nicely shaded should be selected, being careful that each leaf has its stem uninjured.

"As soon as possible after gathering them the leaves must be pressed. If they begin to welt or shrivel before you are ready to press them, put them in water, and keep them there till they revive. See that no soil, no foreign substance of any kind, is on either side, and then with a warm, not hot, flat iron press and iron each leaf on its upper surface till it is perfectly dry; spreading it for this purpose on several layers of paper, or on an ordinary ironing-board, just as if it were cotton cloth. This over, oil each leaf on the same side on which it was ironed with linseed, olive, or lard oil, using a small camel-hair brush, or a bit of cotton batting tied to a stick, and then place them on dishes in the sunshine to dry. When dry, reject all those that have a semi-transparent or oily appearance; to prevent this, get the thickest leaves you can for your collection, and do not oil them too generously nor with a rough brush.

"If you wish to arrange the leaves in boughs, or sprays, or long garlands, procure a few knots of brown worsted, and a quantity of fine wire; old bonnet-wire cleared of its covering, or the wire from the heading of old brooms, is of the right size, and very convenient to use. When the oiled leaves are dry, assort the different kinds according to their species—that is, place the Rock or Sugar Maples together, then the Red or Swamp Maples, the English Elms, the American Elms, the White Oak, the Black Oak, and so on; because, though several species are allowable in a garland, it would be unnatural to mingle them in sprays or boughs. The only proper way, however, of bringing them together is to bind the various sprays into a large bouquet; thus the contrasting forms and hues have a good effect.

"Cut the wire into pieces of different lengths. You will need a great many 3 and 4 inches long, several a foot long, and a few 2 feet or more, according to the length of the branch or the garland you wish to make. Take the smallest leaves for the tips of the sprays and branches, and follow these with others of larger size, proceeding regularly till you have the largest leaves at the base of the branch; keeping an eye, at the same time, to the agreeable union of varying shades, and studying the marking and blotching of each leaf, so that it shall have no glaring contrast in its nearest fellows; and thus, with the greatest variety in the group, the whole are blended harmoniously and pleasantly.

"Begin your work by attaching all but the very smallest leaves to the short wires, placing the wire beneath the stem, and in such a manner that it strengthens its whole length; and then wind the worsted around both so closely and tightly that nothing of the stem or wire can be seen. Then take a small leaf and fasten it in the same way to a long wire, which is to be the main stalk of a branch. Along this dispose the other leaves naturally; bending the ends of their wires as needed, and covering all together by continuing to wind the worsted as before. Several branchlets or sprays may thus be gathered on one stalk, forming a large bough or a long garland. Avoid stiffness and flat-

ness of position; set and bend the stems in a life-like manner. For this the wire stems are a great advantage. They also contribute to the durability of the leaves, which, if preserved with no support save their own stems, are soon broken unless extreme care is taken.

"The beauty of Oak leaves is much enhanced if clusters of acorns in their cups are introduced among them. The cups must be punctured with an awl, to admit the end of the wire that is to serve as a stem, and the acorns then glued to the inside of the cups. When these are dry, wind the wire with the brown worsted as in uniting the leaves. Birch burrs must be glued directly to the wire, which it will be convenient to wind with the worsted, and form into a branch before the glueing takes place. They are a pretty addition to branches of the golden Birch leaves. The red berries of the Black Alder, and the scarlet and orange seed vessels of the Celastrus scandens (Climbing Bitter-sweet), gathered before the frost has touched them, will keep fresh and bright on their own stems a long time, and add much to the beauty of any collection of leaves.

"These boughs and garlands, arranged tastefully in vases, drooping around pictures or statuary, or hanging upon the walls of a room, seem to lend it the sunshine of a perpetual Indian summer. The most desirable leaves for this purpose are those of the Oak, Maple, Elm, Sumach, Birch, and wild Cherry; though contributions from woody shrubs and garden bushes never come amiss, if of substantial texture and smooth surface; and green leaves of Fern—fronds of the common Brake—with their long plumes of verdure, make an agreeable contrast to more brilliant colours and more fanciful shapes. Fern leaves should be ironed in the same manner as other foliage; but they need no oiling, and if not hung where the air is intensely hot and dry, will remain handsome several months.

"It is a mistaken notion that autumn leaves need varnishing. Varnish makes them brittle, and more liable to crack; while the excessive lustre that it imparts is unnatural. Oiling gives sufficient polish, deepens, clears, and preserves the colours, and keeps the tissues somewhat elastic. When the leaves get dusty, wipe them with a damp cloth. If they curl, damp them, and place the branch for a few hours between papers under a pile of heavy books.

"The changed leaves of autumn may also be used for other ornamental purposes. Small wreaths to surround unframed pictures can be made, fastening the wired stems by sewing, or by winding with worsted, to a narrow circle of pasteboard, or a ring of wire-taste; the Sumach, Elm, or Cherry leaves are best for these. And carving may be successfully imitated with Oak leaves and acorns. For this, glue the under surface of the leaves to a picture-frame of pasteboard, or of wood stained a dark colour; cut the acorns, and their cups also, in halves, and intersperse them among the leaves, glueing them in a flat position, and then varnish the whole. The same work makes a pretty front for a bracket. And little sprigs and branches of Maple, Elm, or Cherry, with their natural stems, may be ironed, and then fastened with gum tragacanth to the pretty white-wooded boxes, letter-cases, and other articles that are prepared for painting and decalcomanie; being afterwards lightly varnished, or not at all, according to fancy. Sprays of Maple or Elm, or Oak leaves and acorns, may, in the same way, ornament pasteboard or wooden slips for letter and card racks; the lining, which should be of the same shade as the leaves, being first glued to the frame.—Annie G. Hale."]

ROSES—MANETTI STOCKS—STANDARDS—NEW VARIETIES.

Although many of your readers will, perhaps, be getting tired of hearing so many different experiences in the matter of Roses, yet, as I believe there are more persons interested about Roses and Pelargoniums than about any other flowers, I will risk the chance of being tedious, and add my own observations to those which have already been called forth in your Journal by my friend "D.," late of Deal.

I will begin by saying a few words about the Manetti stock, as I have now had an experience of seventeen years with it, and have, therefore, some knowledge of its value. In the first place I am far from agreeing with those who say the Briar is doomed; because upon all strong lands the Briar is a far better stock than the Manetti, but the especial value of the Manetti is that it will suit soil where the Briar will not thrive. Light loam, sandy soils, and soils with too much peat—all can be made with proper care and attention to grow good Roses on the Manetti stock, while on the Briar these would only have a struggle for existence. Another great advantage is, that as the union of the stock and scion in the Manetti ought to be planted at least from 2 to 3 inches below the surface of the ground, it affords a great protection against frost. In the winter of 1860 I had only two standards left alive out of sixty, whereas, though all the plants I had on the Manetti, except very few, were cut to the ground, they all sprung up again and bloomed fairly the very next season.

Another advantage is, that in nine cases out of ten Roses on the Manetti stock push out roots of their own above the union, more especially the stronger kinds, such as Madame Clémence Joigneaux, Charles Lefebvre, John Hopper, Gloire de Dijon, &c. I have removed in the autumn plants only planted the previous spring, and the roots from the Rose were nearly as strong as those of the Manetti stock. I have my prejudices, too, against standards. I mean tall standards; dwarfs may be admissible, but I think a tall standard is quite the ugliest form in which a Rose can be grown, is liable to every breath of wind, and cannot be protected against King Frost. No doubt there are a certain number of positions, as the centre of a large Rose bed, where tall standards may be made use of, but I have never yet been able to admire long lines of tall single standards by the sides of walks, tied to stakes far larger than the stem of the Briar itself, and only looking well during the short period of their blooming.

Still, in strong soils, especially clay, with stiff subsoils, the Manetti stock is of no use, and there the Briar will thrive, and what is more to the point, produce finer-coloured Roses than any light soil will, however well the Roses on the Manetti stock are manured. But I look upon it that the Manetti has done more to popularise the Rose than the Briar, because it enables amateurs by means of the two stocks, whatever may be the character of their soil, to grow Roses with advantage, and it has enabled nurserymen to increase the stock of new Roses much more rapidly by grafting in heat in the spring; and a much greater number of good buds may be obtained in the same space of time from the Manetti than the Dog Rose.

I have heard some objections made to the Manetti on the score of suckers; but this is always due to bad management. In the first place, it never sends out root suckers like the Dog Rose; secondly, if the stock is planted deep enough, the eyes below the bud do not push; and thirdly, all eyes ought to be taken out of the stock before planting. As a proof how little troublesome the shoots of the Manetti are, out of a new quarter of 250 Roses, planted in the spring of this year, I only had two Manetti shoots; whereas from six dwarf standards in one of the beds, planted in the middle of some Roses on the Manetti stock, I had to remove two or three suckers from each stock in the course of the summer.

Some persons, too, have thought that because the Dog Rose is a native of Great Britain, and to be seen wild in nearly every hedge, that it must be hardier than the Manetti; but in the winter of 1860 I had the Dog Rose stocks themselves killed, whereas some large old plants of Manetti that were allowed to grow wild, in order to take cuttings from them, were hardly injured at all; and in the hedgerows about here all the old wood of the Briars was killed, and only the younger and stronger plants survived.

Having said so much about the Manetti, I will curtail my remarks on the Roses, but wish to ask, before leaving the subject of stocks, why more trial has not been given to the Céline stock, which is a very free and surface-rooting kind, a strong grower, and suits the dwarfer kinds of Bourbons better than the Manetti? I should like such kinds as Madame Vidot, Madame Furtado, and Louis XIV. to have a good trial on this stock, as I think it would much increase their strength and vigour.

Now, as regards well-known and well-established kinds, as John Hopper, Charles Lefebvre, Senateur Vaisse, &c., I can only say ditto to Mr. Burke with regard to what has been said about them. Madame Vidot and Comtesse de Chabrillant have done exceptionally well with me this year. Madame Furtado still fails to grow, and though I think it one of the most beautiful Roses grown, I am every year more out of heart with it.

We have had a great accession of strength in pink Roses lately—Marguerite de St. Amand, Princesse Marie de Cambridge, Abel Grand, Monsieur Noman, Elie Morel, and Baronne de Rothschild. The two most perfect blooms of Roses that I think I have seen this year, were both Baronne de Rothschild, which I saw when helping to judge the nurserymen's classes

at the Crystal Palace and Kensington Rose Shows, in both cases exhibited by Mr. Cant, and I think it will be a favourite Rose for many years to come; it opens its blooms well, and seems to have sufficient substance of petal to stand the sun, and the colour the most beautiful smooth satiny pink. Monsieur Noman is also a grand Rose. I myself thought there were very few good new Roses shown either at the Crystal Palace or Kensington, with the exception of Elie Morel, La France, Duke of Edinburgh, which has been good everywhere, Reine du Midi, and Pitord; but Clémence Raoux, Edward Morren, Henry Ledechaux, Julia Trouvais, Julia Treyve, Madame Creyton, Thyra Hammerick, which I believe are the best of this year's Roses, were not exhibited. I am afraid I shall have to join in the verdict which places Paul Verdier among the summer Roses only; but it is so fine a Rose with me, that I shall not give it up on that account. Alfred Colomb is, in my opinion, a better Rose than Marie Baumann, as the latter is too weak in the stem and hangs its head; it is at present a good race for the premiership between Charles Lefebvre and Alfred Colomb, but though the latter may be the finer-shaped Rose for exhibition purposes, yet the former is the more useful for the garden. After all, when in perfection, no Rose equals Maréchal Niel, and though we are told that Gloire de Dijon is the proper stock for it, yet I have seen it on the wall of my father-in-law's house in this parish, budded on the Manetti stock, make a shoot this year more than 13 feet long, and it had from twenty-five to thirty fine blooms the second year after planting, with some of the largest leaves I ever saw on a Rose; in fact, I never saw a plant in greater health and vigour.

Time and space warn me that I must bring these remarks to an end, and I will conclude by giving a list of those Roses, according to their colours, which have proved most valuable to me.

White.—Baronne de Maynard, Mdlle. Bonnaire, and Virginal, to which I add Souvenir de Malmaison, for though not pure white, yet it is one of the most useful and beautiful Roses when properly managed, but it requires a shady place, and must not be exposed to the full blaze of a midday sun, for this is the reason it often does not open well in the summer, and gives better blooms in the autumn. Acidalie is also another of the same class.

Pink.—To the six I have already named I add Cécile de Chabrillant, still one of the best and finest-shaped Roses grown, Alphonse Karr, and La France.

Rose-coloured.—Madame Furtado, difficult to grow; Madame Hector Jacquin, though not full enough, still a beautiful Rose; Madame Knorr, and Duchesse de Morny, one of the very finest Roses grown.

Cerise.—Madame C. Crapelet, John Hopper, Victor Verdier, Thorin, Madame Boutin.

Scarlet and Crimson Scarlets.—Le Rhone, La Brillante, Horace Vernet, Alfred Colomb, Marie Baumann, François Lacharme, Senateur Vaisse, Madame Victor Verdier, Fisher Holmes, and Duke of Edinburgh.

Crimson.—Charles Lefebvre, Lady Suffield, Mdlle. Marie Rady, François Louvat, Black Prince.

Dark Crimson.—Duke of Wellington, Lord Macaulay, Pierre Notting, Monsieur Boncenne, Xavier Olibo, Vicomte Vigier. Nearly all dark Roses ought not to be exposed to the midday sun.

There are some very good Roses, such as Madame Clémence Joigneaux, Antoine Ducher, Madame Caillat, and a few others, whose colour it is difficult to classify. The Roses that have disappointed me more than others this summer have been Charles Rouillard, Alpaïde de Rotalier, Hippolyte Flandrin, Exposition de Brie, and Duc de Rohan, all of which are fine-weather Roses.

There is one class of Roses especial favourites of mine, which, in my opinion, are not sufficiently grown, because they are not quite large enough for exhibition Roses, but which are the most constant second bloomers, and are most of them beautifully shaped; I allude to the Hybrid Bourbons, as Louise Odier, Louise Margottin, Modèle de Perfection, Emotion, Catherine Guillot, Baronne de Noirmont, Baron Gonella, and Michel Bonnet. These are more decidedly Perpetuals than any, except the Noisette and Tea Roses, neither of which I have hitherto alluded to, as there are so very few that are of general use, Gloire de Dijon and Céline Forestier being glorious exceptions.

I cannot conclude these remarks on the Rose without adding that I strongly recommend all the lovers of the Rose to obtain the Rev. S. R. Hole's new work on the Rose, which contains both a fund of information and amusement, and will, I am sure, prove interesting to every rosarian.—C. P. Peach, *Appleton-le-Street, Malton.*

CLERODENDRON FALLAX FROM SEED.

When well grown there is much to admire in this plant. Its noble spikes of scarlet flowers rising above its broad dark green foliage, and its easy culture, are qualities which entitle it to more extensive cultivation than at present. It is, however, not often that the dimensions of the stove will allow of more than a specimen or two being grown in order to complete a good collection of stove plants, and such is the case at this place; I therefore determined to try to grow it in an intermediate temperature for conservatory decoration. With this object in view I raised a number of plants from seed, and grew them for blooming in September and October. I believe I have perfectly succeeded, because now and for a month past a length of about 20 yards in the front part of the conservatory is decorated with the gorgeous flowers of this Clerodendron, which have a very pleasing effect when mixed with other flowers, and with foliage of a contrasting character, especially when viewed from either end. I now consider myself well repaid for the trouble I have taken, and shall raise some plants again another year; but I should also like others to grow some for the same purpose, therefore I will give a detailed account of the mode of treatment which I pursued.

The seeds were gathered from an old plant in the autumn, and in the first week of the succeeding March they were sown in a pan, and placed in a heat of 60°. The soil used was finely sifted sandy peat. When the seedlings came up (and they were not long in doing so), they were almost immediately large enough to occupy 2-inch pots, and in potting them, the same kind of soil was used, with the addition of a few handfuls of silver sand. They were kept in the same place until they were large enough to be shifted into 4-inch pots. When the plants were again established they were removed to a more airy place with plenty of light, and shaded from the midday sun, but kept close to the glass. They had a temperature of 55°, with air admitted both at the back and front of the house, air being occasionally admitted all night, according to the weather. They remained in this position up to the opening of the first flower, but they were shifted into larger pots as they required, until they were in 8 and 10-inch pots, according to size; these were their blooming pots. At the last two pottings a third of turfy loam was added to the compost, and one-fourth well decomposed cow manure finely sifted, also a few handfuls of charcoal broken fine. This mixture of soil will be found to improve the colour of the foliage, and increase the size of the individual flowers. Water the plants plentifully at the root when required, but avoid syringing the foliage in the early part of the day, or even at any time, as a good moist atmosphere will be sufficient for the plants in the comparatively low temperature in which they are growing.

The principal insect enemies are red spider and green fly. The attacks of the former will be best guarded against by moisture in the atmosphere, and never allowing the roots and foliage of the young plants to become dry. For green fly the usual means of destruction by fumigation will answer; this should be particularly attended to just before the first flower opens, because if a few of these insects pass unobserved, by the time the flowers expand there will be multitudes of them, and fumigating then will bring off all the flowers which are open.

It is agreeably surprising to notice how deceptive are the heads of bloom, for what at the first appearance of the buds seems to be a diminutive head of bloom becomes developed into a spike of large proportions and great beauty. When raised from seed, the plants do not exceed 2 feet in height, and have just enough of foliage to set off the flowers to the greatest advantage.—Thomas Record, *Hawkhurst.*

GOLDEN CHAMPION GRAPE.

I have heard many complaints of this Vine being a bad grower. Some canes planted last winter have made scarcely any growth, and seem to all appearance scarcely worth keeping. I do not think this is entirely owing to its being a weak-growing variety, as I have two Vines which were planted last winter, and they have grown vigorously. May it not be in some instances the consequence of propagating from unripe wood, to which some may have had recourse in order to meet the excessive demand? Where the growth is very poor I would

recommend cutting the Vines well back in winter and laying the stems down to the roots, to make, if possible, a shoot start from below the ground level, and afterwards to fill the hollow with light compost; roots will issue from the base of the new shoot, and a vigorous growth will be the result. Another way would be to graft on a stronger-growing variety.

Mrs. Pince, contrary to the experience of "R. M. W.," and others, grows vigorously on its own roots here; it is, in fact, the most rampant grower I have seen.—J. W., *Oxton, Cheshire.*

HYACINTHS, TULIPS, AND OTHER BULBS IN POTS.

I am well aware that the subject of the cultivation of the Hyacinth in pots is almost a threadbare one; it has been frequently handled, and yet there are always found among the readers of The Journal of Horticulture a class who are in the infancy of their gardening profession, and who are glad of any information that comes within their reach.

Next in degree of enjoyment to that derived from the cultivation of the Hyacinth in glasses, is that of their culture in pots. To judge from the specimens one too frequently meets with, there is urgent necessity always for some directions on this head with the view of attaining a higher level of cultural skill. Use 6-inch pots for the purpose, and be content with one bulb in each. Use for potting a compost of one-half of hearty fibrous loam, and the other half of equal proportions of thoroughly well-rotted dung dry enough to be readily pulverised, and leaf soil. In selecting bulbs, do not always suppose the largest give the best spikes. Varieties of Hyacinths whose bulbs are generally very large—such as Waterloo, double red; and Lord Wellington, and Temple Van Apollo, single red, invariably throw two or three spikes, which are frequently small in size, instead of giving one large and bold illustration. I like Mr. James Cutbush's test of weight rather than mere size; this is a golden rule to be observed in the selection of Hyacinths. Pot about the end of October, or early in November, and if you like make two or three pottings of the Hyacinths with a view of aiding a succession of bloom, though it by no means follows that the Hyacinths last potted will be the best to bloom. Have a good large hole in the bottom of the pot, be sparing of drainage, and put something good next the crocks for the roots to lay hold of, as they are sure to go downwards. Do not press the soil hard on which the base of the bulb is to rest—some people pound it as if they were manufacturing a pavement—and cover fully two-thirds of the Hyacinth with soil. Where there is a cool, dry, dark cellar to place them in, you are independent of the traditional coal ashes. Where there is no such convenience, set your pots out of doors in some dry place, placing them on coal ashes or pieces of slate to keep the worms from making their way into the pots, and if you have them invert a thumb-pot over each bulb before covering them with coal ashes. This is intended simply to prevent any injury to the growing shoot by contact with the wet ashes. In six weeks or so, they will be fit to be disinterred, and can be placed in a cool greenhouse or frame, and allowed to take their own way.

Unless you are familiar with plant-forcing, and have the convenience for it, do not attempt it, and accept this hint as well worthy attention—whether you exhibit or no, endeavour to grow your Hyacinths as fine as possible. I once created a sensation at a Hyacinth exhibition in the midland districts by producing some flowers that were regarded as astonishingly fine for that district. I had a two-light frame at my disposal, and over the bottom of it I placed about 3 inches of rotten manure thoroughly saturated with a vigour-giving ammoniacal liquid. I then knocked away nearly the whole of the bottoms of the pots and placed them on the manure, and as soon as the slightest appearance of colour was presented, I applied once a-day some liquid manure made from green cow dung and diluted by one part to two parts of soft water. That floricultural "dodge," though I can hardly think it was unjustifiable, gained me both the first and second prizes in two classes, and overwhelmed my adversaries with envy and surprise.

The following are excellent sorts and by no means generally expensive varieties—viz., *Double Red:* Lord Wellington, a variety that should never be omitted. *Double Blue:* Laurens Koster and Bloksberg. *Double White:* La Tour d'Auvergne and Prince of Waterloo, but the last two are by no means essential. *Single Red:* Annie Isle, Duchess of Richmond, Emmeline, Gigantea, La Dame du Lac, Lord Wellington, Norma, Robert Steiger, Sultan's Favourite, and Temple of Apollo. *Single Blue.* Baron Van Tuyll, Bleu Mourant, Charles Dickens, Grand Lilas, Leonidas, Mimosa, Orondates, and Regulus. *Single White:* Alba Superbissima, Anna Paulowna, a fine single form of the old double Grootvoorst; Cleopatra, Grandeur à Merveille, Grand Vainqueur, Madame Van der Hoop, Mont Blanc, Seraphine, and Themistocles. *Single Yellow:* Anna Carolina and Heroine.

These give some thirty-four varieties, from which a good twenty-four could be selected.

At the London and Liverpool Hyacinth Shows, the pot is dropped into a larger one, and moss is nicely laid over the top. I imagine this to be a practice coming within the range of what Mr. William Paul terms (and condemns) as "floricultural millinery;" but then, as he does it himself, he at least would hesitate to include it.

In growing Hyacinths for exhibition, look well after the foliage. There is as much art in developing good foliage as in producing good flowers; and all other things considered, a thorough judge of Hyacinths attaches some importance to it. In these terrible pitched battles with Hyacinths between Messrs. Cutbush and Paul, the matter of foliage will sometimes almost, if not quite, decide the fortunes of the day. What is worse than to see a fine spike of flowers quite hidden within a kind of leafy palisading, as if Flora had impounded it for some crime? It is almost as bad as staging a collection of cut Roses, and omitting to take off the lid of the box. I know that some sorts, and especially among the single white and blue flowers, will throw up their foliage; nevertheless, it can be kept within due bounds if the cultivation be properly looked after.

Some pots of Polyanthus Narcissus should be cultivated for the decoration of the conservatory or greenhouse. The flowers are so powerfully fragrant, as to be almost unbearable by some persons in a sitting-room, but they should always have a place in the conservatory. Do not put a single bulb in a pot, but yoke them in couples, as two bulbs in a 6-inch pot, or better still, three in an 8-inch pot. A soil similar to that recommended for the Hyacinth can be used, and similar treatment subsequently. They are very easily managed, and well repay a little trouble. The following are fine for pot culture—Bazelman major and Gloriosa, two of the best; the yellow Grand Monarque, Musat Orientalis, Sir Isaac Newton, Soleil d'Or, and a pretty dwarf-growing variety, L'Etoile d'Or.

Those very beautiful decorative plants, the Early-flowering Tulips, must not be neglected, especially as they are admirably adapted for pot culture. I know one place where these are largely grown in pots for decorative purposes, and are in flower from Christmas till the end of May. Three bulbs should be placed in a 6-inch pot, and some sand be added to the compost recommended for the Hyacinth and Narcissus, the after-treatment being similar. The bulbs should be buried just beneath the soil.

Here are some good single varieties, not too dear in price:—Couleur Cardinal, Garibaldi, Monument, Couleur Pongeau, Scarlet Van Tuol, and Vermillon Brillant, scarlet, crimson, and deep rose shades; Paul Potter, Purple Crown, and Van der Neer, shades of purple; Proserpine, Rose Luisante, and Queen of Violets, rose; Canary Bird, Gold Prince, and Yellow Pottebakker, yellow; Thomas Moore, buff; Pax Alba and White Pottebakker, white; Duchesse de Parma, Keizer Kroon, La Cour de France, Princesse d'Autriche, Queen Victoria, Rose Gris de Lin, and Rosa Mundi, edged and feathered flowers; and Bride of Haarlem, Globe de Rigaud, Joost Van Vondel, Paul Moreelse, Royal Standard, Marquis de Wesserode, and red-striped Pottebakker, striped flowers. Of the double-flowering kinds:—Imperator Rubrorum, Bleu Céleste, Rex Rubrorum, La Candeur, Rose Eclatante, and Yellow Tournesol, self flowers; Duke of York, Gloria Solis, and Tournesol, edged flowers; and La Belle Alliance, Couronne Impériale, and Marriage de ma Fille, striped flowers.

It is a good plan, just as the flowers are fully expanded, to bind them round with a piece of fine silk. This considerably prolongs the duration of bloom, especially if they be kept in a somewhat shady position.

Then the "happy and beautiful Crocus" should be represented also. The same size of pot, 6-inch, and soil as for Tulips, will suit the Crocus admirably, and six bulbs should be placed in a pot. For earliest blooming, begin with Crocus biflorus, or the Scotch Crocus, a very pretty, though small, but singularly free-blooming form, the flowers pencilled with rosy violet on a pale ground, and the Cloth of Gold. Then for suc-

cession, the large yellow; Prince Albert, Lilaceus superbus, and Ne Plus Ultra, blue flowers; Pride of Albion, and Sir Walter Scott, both striped flowers, the former heavily so, but both fine and handsome; and Mont Blanc, and Mrs. Beecher Stowe, white varieties. Crocuses are very handsome indeed in the open ground, but their beauty is much enhanced when subjected to a little cultivation.

There are yet a few other bulbs well worthy of cultivation in pots. Perhaps the earliest of all to bloom would be the pretty and delicate Early Roman Hyacinths, in whose praise too much can scarcely be written, as they blossom profusely, and continue in flower for a long time. A pot or two of the little early-blooming Bulbocodium vernum, should not be omitted; and Scilla bifolia and sibirica, both little blue-flowering gems, should be included at all hazards, though the former is somewhat difficult to obtain. I also put in a claim for Narcissus pumila, and N. Bulbocodium, the last named the Hoop Petticoat Narcissus, and both most valuable as pot plants in the conservatory; and then to bloom later, the chaste, free-blooming Triteleia uniflora.

Just a word in praise of Crocus speciosus as an autumnal-blooming plant for pot culture. It is the gem of my small garden at the present moment. I imagine that what I have for C. speciosus is but a garden variety, but showing an improvement on the original species in point of form. About its delicate blue flowers there is a sweet chasteness, while the type I possess is floriferous to a degree almost approaching singularity. This beautiful Crocus does much in the way of linking autumn to spring; it is in the van of a floral procession that with almost unbroken ranks bridges over the parenthesis of winter, and connects the past with the future, and so

"Winter, slumbering in the open air,"

can be made to

"Wear on his smiling face a dream of spring,'

even when he holds the earth in the firmest grip of his icy hand.—Via.

WELLINGTONIA GIGANTEA.

Observing in an appeal from Mr. Robson for reports upon Wellingtonias, I send you an account of those I saw at Bicton a few weeks ago. About an acre of ground is planted with them. The soil, to the depth of about 1 foot, has been thrown up into nine large mounds about 4 feet high, and upon these mounds nine trees have been planted. I could not help thinking the situation a very unfavourable one, placed as the trees were beyond the reach of any source from which they could draw nourishment beyond what the mounds contained. One of the plants was only a few feet high, and appeared to have been recently planted, but I did not ascertain what had become of its predecessor. Another showed symptoms of declining health, and the remaining seven were tolerably healthy, but did not present a very vigorous appearance. I did not ascertain their age. Their average height is 23 feet, and the diameter of the spread of branches 18 feet. They suffered from the drought of both this year and last. It is now intended to add liberally to the mounds until the surrounding ground shall be restored to its original level.

The largest and healthiest specimen of Wellingtonia at Bicton is planted on the level ground in the pinetum. It is 30 feet high, its spread of branches 18 feet, its circumference of stem at 6 inches above the ground 6 feet 8 inches.

The Wellingtonias are bearing a good crop of cones this season, and the seed is growing well. I believe they are likely to be the first seedlings raised from home-grown seeds in Britain.—A. B., *Cudsden, Amersham.*

In reply to Mr. Robson's inquiry, I write to state how my Wellingtonias are placed, and what is the soil in which they thrive. The soil is a very rich yellow loam, and the situation of the largest tree a wide piece of lawn, surrounded by numerous other Conifers. The tree was planted in September, 1851, soon after the introduction of the species into England, and its height was then 6 inches. The Wellingtonia being an expensive tree at that time, the greatest care was taken of it. It, like all the other Wellingtonias grown here, is sheltered from all winds, many of the common Firs being planted round our Conifers to shelter them from keen winds, but though we are on a hillside, we have not such keen winds as one would imagine.

We have three trees of Cupressus Lambertiana, one being 34 feet in diameter of spread, though the height is only 28 feet, owing to the tree having lost its top a few years ago; the next is 32 feet high, and 28 feet in diameter; and the third is 30 by 26 feet. Mr. Robson's remark concerning the similarity of Cryptomeria Lobbii to C. japonica is quite true; they differ but little in their foliage, but the C. Lobbii as grown here is much more bushy and compact than C. japonica. We have four trees of Cryptomeria japonica, but they have not attained the height of that which was broken at Linton Park in 1867. We have them 35 feet high, but the spread of branches is but small. There is a Picea Nordmanniana 26 feet high, and covering a space 20 feet in diameter. I do not think this species is enough cultivated; it deserves a chief place among Conifers.

Having several plants of Araucaria imbricata, would you inform me the cause of their throwing out so much gum at the base? Is it a consequence of rapid growth? The finest specimen here is 20 feet high, but there are several 15 feet high. Some seem to grow very bushy in this soil.

I will give a list of most of our Conifers and their heights at some future time.

In conclusion I must say a few words about that noble tree, Pinus macrocarpa (P. Coulteri). We have one 20 feet high and covering a space 12 feet in diameter. Its leaves are from 9 to 10 inches long, and its cones in its native country are very large, being from 12 to 14 inches long, 6 inches broad, and weighing from 3 to 4 lbs. each. "It is," says Gordon, in his "Pinetum," "a large tree with spreading branches, growing from 80 to 100 feet high, and 3 or 4 feet in diameter, found on mountains of Santa Lucia, near the Mission of San Antonia, in California, within sight of the sea, at an elevation of from 3000 to 4000 feet. It is also plentiful in other parts of California, particularly on the 'Cruste,' an ascent from San Luis Obispo on the brow of the mountain."

The Cryptomeria Lobbii which I mentioned in my former letter has only two leaders, each from 12 to 14 feet high, not four, as I stated by mistake. The tree is 26 feet high.—The Master's Gardener.

MARÉCHAL NIEL ROSE ON A CÉLINE STOCK.

I have read with much interest the interesting articles on Roses and their stocks from pens of no mean authority. All seem to be of one accord that Maréchal Niel is a very beautiful Rose, and so say I; but there seems to be some difficulty in blooming it, and in many instances inducing it to grow. As there are differences of opinion as to the proper stock for it, I beg to offer my experience. I cannot too strongly recommend as a stock for it the Céline Rose, which is a Hybrid Bourbon of very strong growth, hardy, and the cuttings will root as freely as those of the Manetti. It will grow well in all soils, but is most at home in a sandy loam. Climate seems to make no difference to it, as it has thriven wherever I have had to grow Roses. I have never found the Maréchal nor any of the Tea or Noisette Roses die on it, although I never could grow them more than a year or two on the Manetti.

I find that in light soils for most of the Tea Roses, and especially when it is desired to have a dwarf plant of Devoniensis, the Crimson Boursault is the best stock; but if the soil is at all of a clayey nature there is nothing to surpass the Briar. Of course I am referring to Tea and Noisette Roses. Let me impress upon all lovers of Maréchal Niel and Roses of the same class never to buy or work it on the Manetti stock, for that is time and money thrown away, and will only end in disappointment.—J. T., *Macsgwynne, South Wales.*

THE CLOCHE SUPERSEDED.

Yes, I venture to write these words; and little did I think, when recording my observations on the vegetable-growing of Paris, that there was so nearly at hand for us an invention that would put it into our power to produce winter salading in quite as great perfection as our neighbours; but such I believe to be the case, and that the plant-protectors of Mr. Rendle will, amongst their various uses, be found admirably suited for this purpose, far more easily managed than frames, cheap, and durable. Every owner of a garden will now have at hand materials for raising and keeping his salads. The plant-protectors will be more cleanly than the cloche, for there will not be so great a need of heaping up manure about them in severe frost—a covering of mats being, I should imagine, sufficient. At any rate, I mean to give them a fair trial this winter, and

shall hope in the spring to report progress. I imagine that we shall find these plant protectors among the most useful inventions of recent date in gardening. I saw them at Mr. Rivers's, at Sawbridgeworth, in August, and was then struck with their usefulness for Grape-growing, and since then have been led to see that they will be most useful for many purposes, amongst others that which I have indicated above.—D., *Deal.*

MR. B. S. WILLIAMS'S VICTORIA NURSERY.

If proofs were wanted of the increase of a taste for plants, the progress of the London nurseries within the last few years would be one of the best; for that progress has not been confined to one nursery, but has extended to nearly all, and although a few old, well-known establishments have disappeared to make way for the rapid development of London, the majority have only receded before the advance of buildings to reappear, at a distance from their former sites, on a greatly enlarged scale, and with appliances more complete; while in the case of others which have not been removed, subsidiary nurseries have been added at a distance from the principal one, to which they serve as feeders. Mr. Williams, however, has not been driven from his old place of business by bricks and mortar, for he still keeps it on; but probably foreseeing the likelihood of its being built in if not built over, and finding, too, that its area was too circumscribed, he formed, five or six years ago, his Victoria Nursery opposite the Archway Tavern at the foot of Highgate Hill, making it his principal place of business. Here no adaptation of existing means could be attempted; everything had to be made new, and on a scale suitable to Mr. Williams's requirements, and everything from beginning to end was carried out according to his ideas, and under his own supervision. Of the conservatory and show house, soon after its completion, an illustration was given in the seventh volume of this Journal, and its general appearance now is not essentially different, though many of the specimens are very much larger, it is better filled, and the arrangement has been altered. The value of the plants in this house alone, 105 feet by 45 feet, is at a rough estimate £3000. It is essentially a house of fine-foliaged plants, a home of grace and beauty, but not of colour, for though flowering plants are not excluded, they play but a subsidiary part. Here we find noble tree Ferns, black-trunked and aged, with graceful wide-spreading fronds, stiff-formed Yuccas and Dracænas, and Palms with their fan-shaped leaves spread out as it were to shield from the burning rays of a tropical sun. And these are mingled with dark glossy-leaved Camellias, with brighter-coloured Ferns, and with a multitude of other plants, affording by their foliage a diversity of form and hue. Most of the larger specimens are arranged in pairs on the opposite sides of the main walk leading past the fountain, and the most remarkable are Chamærops humilis and Fortuni, Dracæna lineata 14 feet high, Dracæna indivisa, Dicksonia antarctica, Cyathea princeps, C. Smithii, Cycas revoluta, and Yucca aloifolia variegata, at least 7½ feet high. A pair of the Dicksonia is especially remarkable; one plant has a trunk measuring 1 foot 9 inches in diameter at the base, and standing about 13 feet high from the ground, while there is another specimen with not quite so thick a stem, but of even greater height. Cordyline indivisa latifolia is another noble plant; its leaves are 6 inches broad, and have the orange midrib very conspicuous, but whether these are permanent characters or peculiar to the individual, remains to be seen; in the former case the plant cannot fail to be sought after.

The collection of Yuccas, Agaves, Beaucarneas, and Dasylirions along the side shelves is large, and many of the specimens are remarkable either from their size or rarity. Yucca Stokesii having a broad band of yellow in the centre of each leaf, Yucca albo-spica, Dasylirion acrotrichum and plumosum, Beaucarnea longifolia with leaves 7 feet long, a very graceful plant for a pedestal in front of mansion in summer, and Beaucarnea glauca having a large woody rootstock, are a few of the most noticeable, but there are many more remarkable in various respects. There are, besides, on the shelves numerous specimen Azaleas and Heaths out of flower, and near the entrance a very large specimen of Eucharis amazonica, invaluable for its continuous flowering, and for cutting for bouquets, and near this, in the body of the house, are four fine specimens of Yucca quadricolor. Of Lapageria rosea, two large balloon-trained specimens were producing a few flowers, and there were several large Camellias equally grown and well set with buds, especially Bonomiana and a pair of the old Double White.

The stove contains a splendid collection of Palms, several of them being very large specimens, and new introductions are amply represented; Areca Baueri, Areca Verschaffelti, Dion edule, Livistonia altissima, and some others being very large, while younger plants are numerous.

The next house contains fine-foliaged and flowering stove plants, consisting of Allamandas, Ixoras, a fine pair of Theophrasta imperialis, Crotons, a noble Cycas circinalis showing for fruit, and with some of the old fruit remaining; Mussænda frondosa, always producing its white calycine leaves; Rondeletia speciosa just coming into flower, and which will probably produce a succession of bloom up to Christmas or later; and Anthurium Scherzerianum, which, though exhibited at almost every large show this year, is still in bloom. Here too, in flower, is Posequeria longiflora, which is but rarely seen, but deserves to be more generally cultivated on account of its extremely fragrant white flowers, which are produced in long succession, the plant under notice having borne two sets of flowers since May, and is now forming buds for a third bloom. Rogiera gratissima, a recent introduction, appears to be valuable from its frequent flowering, and its flowers are pink and sweet-scented. There are in this house excellent plants of Gold and Silver Ferns, some of which are grown on sections of the trunks of tree Ferns, an idea of Mr. Williams's; and elsewhere he has Ferns of other kinds grown in the same manner, so as to allow of the fronds drooping more than they would naturally do, and, according to taste, forming miniature tree Ferns or not. At the back are a number of specimen Rondeletias, Franciscea, &c., at rest, and on shelves a large stock of young plants, both flowering and fine-foliaged.

Next comes the cool fernery, in which are remarkably fine specimens of Cibotium princeps, C. regale, a new and handsome species, having the caudex covered with shining fawn-coloured hairs; Lomaria cycadæfolia, with a thick trunk 2 feet high; Gleichenia speluncæ, the rare Cyathea contaminans, besides a large stock of young plants of various genera.

A house filled with Heaths, Camellias in 48-pots, and New Holland plants, with a large collection of the Amaryllis tribe under the stages, is the next in order; then follow the Orchid houses, containing one of the richest collections to be found in the country. Mr. Williams's success as an Orchid-grower and exhibitor is so well known, that comment on that subject is unnecessary, and, as will be readily supposed, his collection, including not only the newest introductions and many unusually large masses of older ones, is in perfect health. The time of our visit was not the most favourable for seeing a large number in flower, still in the cool house Lælia elegans and gigantea, Lycaste Skinneri, Cattleya labiata and Lodigesii, several Odontoglossums, as Alexandræ, bictonense, and grande; Oncidium ornithorhynchum, with small sweet-scented lilac and orange flowers; the fine new Dendrobium Bensoniæ; and Maxillaria venusta with pure white and orange flowers, besides some other species, were blooming, and some of them profusely. Oncidium obryzatum, which is very useful on account of its free flowering; Mesospinidium sanguineum, with pretty little red flowers; and Miltonia Clowesii, conspicuous by its rich violet lip, were the most noticeable of the remainder.

Next is the East India Orchid house, containing a very large collection of Vandas, Aërides, Saccolabiums, and Cypripediums, many of them unusually fine specimens, and all in excellent condition. Flowering in this house were Angræcum eburneum, several Cypripediums, and the pretty Dendrobium triadenium, which, though the spikes are small compared with those of other species of the same family, has the merit of blooming several times a-year. Phalænopsis rosea, another Orchid valuable for its continuous flowering, was also in bloom. Of Phalænopsis Schilleriana, though not in flower, yet ornamental by its foliage, there was a remarkably fine specimen, and large plants of Aërides, some, as A. Larpentæ and crispum, being in flower. At the end of this house, as there is with most of the others, a portion is cut off as a potting house, where plants can be cleaned, repotted, and otherwise attended to in a suitable temperature without exposure in a shed or unheated potting house. These little potting compartments are further utilised for the culture of collections of plants not numerous enough to require one of the larger houses to themselves. Thus, in the case of the East India Orchid house, the potting compartment is occupied with a collection of those curious North American Pitcher Plants, the Sarracenias, and shut off from these by a kind of tiffany screen, is a beautiful collection of Filmy Ferns, among which Todea intermedia and superba, and the rare Trichomanes reniforme, were conspicuous.

A stove filled with a mixed collection of fine-foliaged plants, and others in flower, formed an interesting feature. In this we noticed magnificent specimens of Croton variegatum, angustifolium, and variegatum pictum; handsome plants of those noble Palms Stevensonia grandifolia and Verschaffeltia splendida, and of Alocasia metallica, zebrina, and Lowii; Marantas of the newest and best kinds; Fittonia argyroneura; and under the stage Gynostachyum Verschaffelti at least a yard in diameter, a magnificent specimen, which Mr. Williams exhibited at the International Horticultural Exhibition of 1862. Dracænas, both new and old, the new Crotons, Eranthemum igneum, a young stock of Bertolonias, and a host of other beautiful-leaved plants are also grown here. There is also a collection of Pitcher Plants, Nepenthes Rafflesiana and Hookeri having very fine pitchers. Many of these are grown in baskets filled with sphagnum and a little peat, and suspended from the roof. Thus treated they have a much better effect than in pots, the pitchers at the ends of the leaves hanging down over the sides of the wire baskets. Among plants in flower were large specimens of Dipladenia crassinoda, Franciscea calycina, which blooms in long succession, Ixora coccinea, and Ixora javanica; but showy as the latter is, Mr. Williams states that it is surpassed by the new Ixora princeps. Cochliostema Jacobianum, another new plant, also deserves especial mention, as having handsome foliage as well as large panicles of flowers.

Several other houses were occupied with Azaleas of various sizes, from large exhibition specimens down to plants in 9-inch pots; Camellias in tubs imported from the Continent, and Camellias in small pots; Heaths and Aphelexes; Boronias, Genetyllis, and various New Holland plants; Coleuses, Fuchsias, Zonal Pelargoniums of different sections, and a variety of other plants too numerous to mention in detail. A collection of those beautiful but now neglected bulbous plants, the Nerines, deserves notice, even though they were not in flower, for they are so rarely seen, and some of them, as N. coruscans major, have very showy flowers.

The Pine stoves are a sight in themselves, containing such a stock of plants in all stages as one could probably find nowhere else about London; and of Vines, too, there is an excellent collection of well-ripened canes, including Mr. Thomson's White Lady Downe's.

UNITED HORTICULTURAL SOCIETY.

At the monthly meeting of this Society, held at the Green Dragon Hotel, Bishopsgate Street, October 11th, Messrs. E. G. Henderson and Son, of Wellington Road Nurseries, St. John's Wood, exhibited the following plants—viz., Achillea umbellata, a very dwarf and compact silvery-leaved plant, to which a first-class certificate was awarded as being useful for edging and surface purposes; Bouvardia jasminiflora, a new white, free-growing and flowering kind, highly scented, blooming in autumn and winter, which must be a good addition to our cool greenhouse plants, and to which a first-class certificate was given; Coleus Emperor Napoleon, with intensely dark foliage, of dwarf robust habit, hardy constitution, and said not to drop its leaves when exposed, like most of the other Coleuses, and a plant likely to prove a rival to the well-known Perilla for bedding purposes—Messrs. E. G. Henderson were requested to exhibit this again;—and Crassula Cooperi, a pretty little free-flowering plant, 2 inches in height, and which from its dense habit will be a useful plant for marginal rows.

An interesting paper on coloured-leaved plants was read by Mr. R. H. Bard, of St. John's Wood, stating the merits and cultivation of many of these.

NUNEHAM PARK ONION.

Seeing Mr. Cuthush's letter inviting your readers to give reports of the different kinds of Onions grown by them, I send the result of a trial carried out on a very small scale in a small garden in a cold district of North Wales.

The beds were 15 feet long and 4 feet wide, and the seed sown about the end of March, six rows in each bed. All received the same treatment. The crop of Nuneham Park weighed 71 lbs., of White Spanish 51 lbs, James's Keeping and Brown Globe not 50 lbs. The seed was brought from a house celebrated for their strain. Would 71 lbs. be considered a heavy crop for a bed 15 feet by 4 feet in Onion-growing districts?—Cymro.

I quite agree with Mr. Cuthush's opinion of this Onion. I believe it to be the best in cultivation. I sowed with it this spring a plot of ground 6½ yards long and 2 yards wide in a very hot and dry situation, and I have harvested in the middle of August 156 lbs. of beautifully shaped and sized Onions. The necks are now no thicker than common twine. I exhibited it at two horticultural shows this summer, and took the first prize at both of them. There were fifteen competitors at one, and nearly as many at the other.—T. C. Tunnicliffe, *Longdon.*

In 1867 I procured a packet of seed of the Nuneham Park Onion, and sowed it along with many other sorts. On taking them up I found the Nuneham Park superior to any, Danvers' Yellow being the next best.

Last year I saved my own seed, and this year sowed it side by side with Danvers' Yellow, and I have no hesitation in saying that the Nuneham Park is far better in every respect.

The seed was sown on the 27th of February in drills 18 inches apart, the plants thinned out to 6 inches in the row, and with the exception of hoeing, nothing else was done to them till harvested three weeks ago. Taking them on an average, they measure 14 inches round; some are 17 inches, and weigh 1 lb. 10 ozs.

In case there should be any doubt respecting my statements, I send for your inspection a fair average sample.—A. Donaldson, *Latimer Gardens, Chesham.*

[The Onions sent to us by Mr. Donaldson were very fine. Not one of them was thick-necked. They were flat in form like the Silver-skinned, and as mild as the mildest imported Spanish. It will not be necessary to insert any more communications on this subject.—Eds.]

GLÖEDE'S PERPETUAL PINE STRAWBERRY.

I think there has been too hasty a condemnation of this fruit. I can easily understand why it was; nevertheless, the fact, it seems to me, remains. My friend, Mr. Radclyffe, gave me half a dozen plants of it, and I felt very much inclined to throw them away this year, but they were left, and during the present month I have gathered at various times some very good and well-flavoured fruit. Had I possessed a couple of rows, I have no doubt that I should have been enabled to gather a dish two or three times. Now, it may not, and does not, deserve the name of Perpetual Pine, but if we can obtain a Strawberry that will produce fruit for us in autumn, surely it must be an acquisition. Judging from its habit, and the wiry nature of the connecting portion of the runners, I should think there must be some of the Alpine blood in it, although the fruit has none of that flavour. At any rate, I am going to try it again, and shall report progress.—D., *Deal.*

COLEUS PLANTS RAISED FROM LEAVES.

I have just exhibited a set of sixteen Coleus plants at our autumnal show, and taken the first prize. The officers and others of the Royal Jersey Society have requested me to write and mention that I have succeeded in rooting the leaves of these ornamental plants, and several of my standards had the whole of the soil in the pot covered thickly with all the various leaves of these handsome plants, the standard starting from the centre. I cannot say at present whether or not I shall succeed in raising plants from the leaves, as is the case with Gloxinia, Lime trees, &c., but I think so, as they root so strongly and healthily.

These handsome leaves make a most beautiful edging for dessert dishes, by placing the glass in an earthenware pan sufficiently large to allow of leaves being placed all round it. They root easily with a good damp bottom heat, and will, I should say, last a long time. My pans have been growing for two and three months. I believe, from what I am told, that this is a novel discovery.—R. E. Knatchbull, Col. R. A., *Jersey.*

[Mr. Wills, Ashburnham Park Nursery, Chelsea, has raised Coleuses from their leaves.—Eds.]

LIBONIA FLORIBUNDA.

Amongst the plants recommended in "our Journal" for winter flowering, I have wondered at never seeing mention of Libonia floribunda, known also as Abutilon megapotamicum and A. vexillarium. It requires so little attention, and this, added to its protracted continuance in bloom, renders it deserving of a place in every collection. It is with me a great favourite. All that is necessary to be done is to give it a little warmth in the spring after flowering, to help it into growth,

to be turned out of doors in the summer with the Azaleas, &c., and now (October) a fine plant will be the result, with every shoot completely covered with flower buds ready to burst forth at the least excitement; and the flowering once begun will continue nearly the whole of the winter.—H. Harris.

MR. LAXTON'S PEAS.

Now that the Supreme Pea controversy seems to have subsided into something like a sensible climax in your correspondent "J. W.'s" letter, I may, perhaps, be permitted, without the risk of doing Messrs. Carter & Co., and Messrs. Hurst an injustice, to state what I believe to be the cause of the extremely wide differences of opinion amongst your correspondents respecting this Pea.

The character I, as a foster-parent, have always had and given of my progeny is, that it is a second early Pea of the Prizetaker class, in height from 4 to 5 feet, and, consequently, requiring to be sown at about such a distance from row to row, and I could have wished the vendors had taken their description either from mine or from observations extending over more than one exceptional season, for I fear this has been the cause of the mistakes which the majority of those who have failed with it have made. In most cases where this has occurred, I have found that it has been treated as an early variety of the style of Sangster's No. 1, and consequently disappointment has been the result; whereas Supreme, in my opinion, has sufficient to recommend it without needing to be sent out as an early dwarfish Pea. Supreme was selected by me as by far the most striking for its deep green colour, length of pod, and productiveness, out of hundreds of varieties, the results of crosses between Laxton's Prolific and Little Gem. For earliness, I do not even consider it a competitor with modern varieties. I have, however, its early type in William the 1st, which runs about 2 feet 6 inches high, and was the earliest deep-coloured selection of the long-podded class from the above crosses. This has proved itself, both here and at Chiswick, to be the best of all the early Peas, and will in its turn, I believe, supplant most of the earlies requiring short sticks.

Of the dwarfer varieties I have many earlier and superior to Little Gem, but of these a limited number of the very best only will be allowed to make the public acquaintance; and I regret here to have to allude to the fact that so-called varieties have, without my authority or even knowledge, been publicly exhibited as Laxton's and to which it would seem I am expected to stand *in loco parentis*, as if I had not a large enough family of my own. Amongst the numerous adoptions I have in prospective from my own family, are dwarf varieties between Veitch's Perfection and Ne Plus Ultra, and many taller varieties of different breeds at present quite unapproachable for size, beauty, colour of seed, and distinctness, but as I yearly select from many hundreds of crosses and varieties, with the object of allowing only a very few of the best to see the public light, some time must elapse before these can all be in the hands of the gardening community.

In conclusion I would recommend your readers to give Supreme the same space as Prizetaker and Laxton's Prolific, and to sow as early in the year as soil and circumstances will permit, for I have found the later sowings usually neither so fine nor so productive as the earlier. The true Supreme has a roundish blue seed, and a long deep green pod, coming in a few days after Prolific, and, as one of your otherwise adverse correspondents stated, approaches Ne Plus Ultra in flavour if it is not gathered too old. The exceptionally extreme seasons of the past two or three years may, in conjunction with the above suggestions, reconcile some of the wide discrepancies between the results obtained by your correspondents, but I fear it is not given to me nor any other mortal to explain them all.—T. Laxton.

GROWING GRAPES FOR PROFIT.

Which is the more advantageous in a pecuniary point of view, the early forcing or non-forcing of Grapes for the market? Supposing one has early sorts of strong established Vines four years old, do you think forcing them in the first year (to begin) to be ripe, say, as early as June, in the second year by May, in the third year by April, giving them a rest every fourth year, would hurt them?

And supposing good Grapes to be obtained for the markets at the above periods, do you think they would pay as well as very late sorts from equally good Vines, brought in very late every year, say ripe for market from October to March, after deducting from forced Vines all expenses of fuel for forcing, and allowing the fourth year as a rest?—A. B.

[Where fuel is at all reasonable, forced Grapes will pay better than late ones, as Grapes from houses in winter have to compete with good foreign Grapes. The questions, however, are such that we should like the opinion of growers experienced with the London market.]

THE VEITCH MEMORIAL.

In accordance with a desire which has been freely expressed amongst horticulturists, that a memorial to the late Mr. James Veitch should be established, a meeting was held yesterday in the Royal Horticultural Society's Council Room, South Kensington, to take action in the matter. James Bateman, Esq., F.R.S., occupied the chair; and amongst those present were Dr. Masters, Messrs. G. F. Wilson, T. Moore, Standish, Gibson, Z. Stevens, A. Salter, J. Douglas, G. Tillyard, W. Robinson, W. Dean, J. Rust, F. Rutland, T. Monro, C. Penny, Smith, of Dulwich, &c. After some preliminary observations by the Chairman, Mr. T. Moore read numerous letters of adhesion to the projected memorial, containing propositions almost equally numerous as to the form it should take. The Chairman summarised these under two heads—practical, and memorial. Of the former, the best appeared to him to be those instituting medals or prizes either for new plants or good specimens of cultivation; of the latter, a monument or portrait. Now, a good portrait might be obtained for £50, a bad monument for £500, and where, as in Mr. Veitch's case, the family themselves were in a position to erect a monument, he was strongly inclined to the portrait.

G. F. Wilson, Esq., cordially agreed in the suggestion of a portrait as the most fitting memorial. He then moved the first resolution—That a desire having been expressed to perpetuate the memory of the late Mr. Veitch, this meeting, fully appreciating Mr. Veitch's claims on the grateful remembrance of horticulturists, and the loss his family and they have sustained, effect shall be given to this desire. This resolution having been seconded by Mr. Gibson and carried unanimously, Dr. Masters proposed, and Mr. Standish seconded, the next, that a Committee be appointed. The third resolution, proposed by Mr. W. Dean and seconded by Mr. Rust, was that the Committee be authorised to obtain subscriptions, and that Mr. G. F. Wilson be Treasurer; and the fourth, moved by Mr. Standish and seconded by Mr. Gibson, that Mr. T. Moore be requested to act as Secretary. It was further decided that the subscription list should be closed on Lady Day next, and that gardeners' subscriptions be limited to a guinea. As it was conceived the amount raised would far exceed the cost of a portrait, the meeting considered that the latter might be supplemented by prizes for good cultivation, whether of plants or fruits, and it was carried unanimously that no medal should be struck to be called the Veitch medal, but that any prize should be called simply the Veitch prize, and might be awarded in money, or otherwise, as might hereafter be decided. Several suggestions were made as to the subjects for which these prizes should be awarded and how they should be competed for, but the details were left to the Committee, and after a cordial vote of thanks to the Chairman, moved by Dr. Masters, the proceedings terminated.

The names of the General Committee, of the separate Committees for England, Scotland, and Ireland, as well as the resolutions in full, will be found in our advertising columns; and we have only to add that those desirous of sending in their contributions at once towards the proposed memorial may forward them to G. F. Wilson, Esq., Treasurer of "Veitch Memorial Fund," care of Mr. Richards, Royal Horticultural Society, South Kensington, London, W. Further, local secretaries, who have yet to be decided upon, will be empowered to receive subscriptions towards the object in view, and their names will appear in due course.

APPLICATION OF MANURES.

In No. 442 of this Journal, at page 221, is an article under the above heading, by Mr. Pearson, in which he says a correspondent lays great stress on the necessity of covering manure as soon as possible after it is spread, and Mr. Pearson calls it "mischievous, not only because it is erroneous, but because it leads to injurious practice." I, for one, would feel greatly obliged to Mr. Pearson if he would be so kind as to describe why it is erroneous, and how it can lead to injurious practice, for I am of the same opinion as the correspondent he

alludes to, and I should be sorry to continue in error. I quite agree with Mr. Pearson as to carting on ground when it is dry, for I have seen enough of the evil effects of carting out manure when the ground was wet, and also ploughing when the horses walked in the furrows up to their knees in mud. I have seen after such ploughing, the water run out at the end of the furrow in quite a stream, and I have had it remarked to me at the time, what excellent ploughs those iron ones were, for they left the bottom of the furrow so smooth that they actually drained the ground; but when spring came, and the land was ploughed up again it was nearly midsummer before it was fit to be sown. I cannot think that it is quite right to have a quantity of good rotten farmyard manure exposed to wind and sun for days before it is ploughed in; for my own part I would prefer it to be under the ground. I could mention several farmers here (in Kent), who have only enough manure spread to be ploughed in each day, because it should not be dried up by wind and sun. Of course it was carted out and left in a heap to be spread as above.

I have had sufficient proof this year that there cannot be much evil attendant on diggiug in manure soon after it is spread, for the principal part of the manure that I have for use consists of old hotbeds made of leaves collected in the park, and which, after being used, are wheeled on the garden as manure, and not being quite decomposed, the material is not very rich. One of these old beds I had wheeled into a corner of the orchard, to which I conducted the overflow from a large tank that receives the sewage from the mansion, and after giving a good soaking of the sewage, I had the whole turned over so as to well mix the sewage with the half-rotten leaves. I then had it wheeled on to a plot of ground intended for Onions, and dug in immediately, and the result was the finest crop of the Nuneham Park Onion I ever saw, not thick-necked, as some affirm it to be, but fine-necked and clear-skinned. I think it is the very best Onion we have when it is well grown. The remainder of the heap I kept for Celery, and I gave that another soaking of sewage, after which I had it put into the trenches, and the Celery does not show any evil effects, but the contrary. It is a fact known to most practical gardeners that all manures must be rendered soluble, as no solid substance can enter into a plant, consequently all solid matter must undergo a species of dissolution, and become watery or gaseous, or both, before it is capable of being absorbed either by the roots or leaves of plants; and if manure loses the water by evaporation, it must also lose a certain portion of the gaseous matter, which must be a loss to the crop it is intended to benefit. In this opinion I think I am not alone, but I should like to hear the opinions of other practical horticulturists on the subject.—W. Graves, *Mabledon Park Gardens.*

FORCING PLANTS.—No. 3.

SHRUBS.

Shrubs are of easy culture, and many, if not all of them, are suitable for forcing; but there are some which from their low growth, compact habit, and profuse blooming, are better for the purpose than others. To enumerate and treat of all shrubs which might be forced, would be tedious. I shall, therefore, only name those of acknowledged excellence.

Deutzia gracilis.—This plant cannot be too highly recommended for forcing. The flowers are pure white, and produced so abundantly as to hide the bright green foliage. Previous to forcing it should be grown at least a year in pots large enough to hold the roots without cramping them. A rather light loam, enriched with leaf soil, will grow it well. The plants should be placed out of doors in a sunny situation during the summer, and be plentifully supplied with water, pinching back any irregular shoots, so as to form a compact plant. Until August they may remain plunged in coal ashes, moving the pots occasionally to keep the plants from rooting through, and taking off any roots that make their way out. After August lift the pots from the ashes, and set them in a warm situation, watering just enough to keep the foliage fresh. The plants will go to rest early; then place them in a cold frame, though they may remain outside with the pots plunged to the rim in coal ashes; but I like them in a frame, for then the soil is not saturated by heavy rains, and comparative dryness appears to act as a sort of rest.

The plants may be forced almost as soon as the leaves have fallen, but they are the better of a month or six weeks' rest. Prior to placing them in the house I think it well to repot them, giving each a clean pot and a little fresh soil, for though we repot we need not increase the size of the pot, but we should remove as much of the old soil as we can, without destroying many of the roots, loosening the sides of the ball, and even if we slightly increase the size of the pot, we have freer growth and bloom. Neat plants may be grown in 6 inch pots, and larger plants will, of course, require larger pots; but I do not try to have any in larger pots than those 9 inches in diameter. Plants in pots of the latter size, and grown from 18 inches to 2 feet high, and as much in diameter, are fine for house decoration, and those in 6-inch pots are ornamental for the table. This is all the potting I give. They are placed in a cool house for about a fortnight, then in a greenhouse or other glass house, with a temperature of 45° from fire heat, and are bloomed in a temperature of 50°. I commence forcing the first lot of plants at the beginning of December, introducing more at intervals of three weeks up to March, so as to have a succession of bloom from January to May. After the plants have flowered they should be continued under glass in a light airy position until the middle of May, and then be placed out of doors in a sheltered but open situation, plunging the pots to save watering, giving, however, plenty of water throughout the summer, and in autumn they will be even finer plants than they were the year before, and fit for being forced again. From having made their growth earlier than plants not forced they are better fitted for early flowering. In this way they may be grown for a number of years without increasing, or but very slightly increasing, the size of the pots.

Deutzia scabra.—This, though not equal to the preceding, is very ornamental when grown as a low standard 2½ feet or 3 feet high, taking away the flatness of stages. On a stem about a foot high it forms a charming bush. It requires a year or two to bring into good form, and establish it in pots. The only difference in the treatment it requires from that of D. gracilis, is that all suckers must be kept down; the shoots after flowering being thinned out, stopping such as grow irregularly, and not commencing to force until January or February. Being of stronger growth than D. gracilis, it must have correspondingly larger pots; but the plants are all the better by being pot-bound.

The Deutzias are propagated by cuttings of the firm shoots under a hand-glass in summer, or by strong shoots in autumn inserted in a sheltered situation. They may be propagated by layers very freely.

Prunus triloba (sinensis) flore-pleno.—Of erect, stiff habit, it forms a neat pyramid, and the flowers are large and very double, white, but going off blush. It succeeds best in a rather sandy or light loam, with one-third of leaf soil or sandy peat, and good drainage. It should be under-potted; indeed, to flower it well it should be pot-bound. Its treatment does not differ from that of the Deutzia gracilis, only the plant should be placed under a south wall in August to insure the ripening of the wood, giving only enough water to keep the foliage fresh. When the shoots become crowded thin them out after flowering, stopping any which are of a straggling disposition. It flowers before coming into leaf, but is very ornamental. It is propagated by cuttings of the ripened shoots in summer.

Amygdalus persica flore-pleno (Double-flowering Peach).—There are varieties with white, carnation, crimson, and rose-coloured flowers, also one called versicolor, all very ornamental as pot plants for conservatory decoration. They may be grown as bushes or pyramids, following the close-pinching system, so as to have them compact and well furnished for bloom; but when the wood becomes weak the flowers are smaller; therefore to ensure large flowers thin out the weak shoots when the flowering is over, and by stopping the strong shoots to four leaves the weaker shoots will be strengthened. Whether the shoots are close-pinched or allowed to make shoots of some length, it is desirable to so dispose of the shoots as to produce a well-formed plant. Standards are very handsome.

The treatment given Peach trees in pots is applicable to these. The trees ought to be kept under glass until the end of May, and may then be placed out of doors in a warm situation—a south border is best—the pots being plunged in ashes, watering and syringing freely in dry weather. In August place the pots under a south wall, but do not plunge them, and water rather sparingly, so as to limit growth and encourage the ripening of the wood, but do not allow the soil to become so dry as to cause the leaves to fall prematurely. In October top-dress the plants, taking away the surface soil, and removing it to some depth from the sides, leaving the mass of roots in the centre of the pots undisturbed, and replace with turf enriched with an equal quantity of well-rotted manure. Old cow dung

is best. Make the top-dressing firm, and give a good watering. At the same time the plants may be housed, or they may be placed in a sheltered position, the pots being plunged to the rim in ashes or tan.

Forcing may commence at the end of November or beginning of December, and by introducing a few plants at fortnightly intervals bloom may be kept up from January to April. The plants may be kept a number of years in the same pots; those from 8 to 13 inches in diameter are suitable.

These Peach trees are mostly worked on the Plum stock, but the Almond is best for this class of plants. Early-forced plants should be continued under glass in a light airy position until danger from frost is past; or if they can be accommodated in a house it is well to keep them there until July or August, and then by placing them in the full sun and giving little water they will go to rest and be suitable for forcing early in November. Few plants are handsomer than Peach trees in pots in full bloom, but the double-flowered varieties surpass the ordinary kinds in the greater beauty of the flower. A temperature of 40° for a fortnight, increasing it to 45° afterwards, is sufficient. Liquid manure may be given once or twice a-week.

Cerasus japonica.—Pink, double pink, and double white varieties, all dwarf and compact. The double varieties are the strongest growers. The treatment is the same as for the double-flowering Peaches.

Spiræa Fortuni.—A shrubby plant of compact growth and white flowers, and Spiræa Thunbergiana, also with white flowers, are fine for forcing, as they furnish pretty, loose, spray-like heads of bloom for vases and bouquets, whilst as flowering plants they are very ornamental. Probably there are many others of this genus equally suitable for forcing. S. japonica I know forces well. The Spiræas are among the handsomest of flowering plants, and it is remarkable they are not more extensively cultivated. They may be grown in pots from 6 to 9 inches in diameter, according to size of the plant, using a compost of two-thirds sandy loam, and one-third leaf soil. All the care they require is to keep them in small pots for the size of the plants, to repot them before beginning to force, to thin out the weak wood after flowering, to lift them from the plunging material frequently in order to confine their roots to the pots or keep them from rooting through, and to place them in a sunny situation in August so as to well ripen the wood. The plants should be established in pots before forcing, which should not begin before January, introducing a few plants at a time up to March.

Weigela rosea and its varieties Stelzneri and Treloni are fine, the flowers being rosy pink in the species, and somewhat brighter in the varieties. Nothing, however, can be more handsome than the old sort well grown, and it has the advantage of being fragrant, hence the flowers are desirable not only on the plant, but for cutting. It succeeds under the same treatment as described for the Deutzia, but being a larger growing plant, larger pots are necessary, and yet the roots should be rather confined. Place the plants in a warm situation in August, water them sparingly, so as to have the wood well matured and induce early rest, especially for plants required to bloom early. The roots, from their close-matting tendency, sometimes choke the drainage before forcing, therefore see that the drainage is free. The plants may be forced in consecutive years, like the Deutzias, or fresh plants may be raised from cuttings in summer, either under a hand-glass or in a shady border. Small plants flower freely.

Weigela amabilis and alba, the one with pink, the other with white flowers, are also fine for early flowering, and force well.

Syringa (Lilac).—The Persian purple and its white variety, from their smaller growth, are, perhaps, the best, though the others are equally good for forcing. Plants set with buds should be taken up in November, preserving a good quantity of fibres, and placed in pots large enough to contain the roots. Sandy loam is a suitable soil. The plants may be taken up and potted as required, but to make sure, it is as well to pot as many as will be required in November, and those not wanted for immediate forcing can have the pots plunged in coal ashes in a sheltered place, whence they can be draughted into the forcing house at intervals as required. A house with a temperature of from 40° to 45° will suit them for the first fortnight, and then from 50° to 55° is the highest night temperature they ought to receive, though I have seen them placed in a stove and roasted into flower, the stalks being then scarcely able to support the heads. For blooming at Christmas, forcing should be commenced in the middle of November. The plants are usually thrown away after flowering, though they might be planted in shrubberies advantageously.

To have subjects eligible for forcing, there should be plants of various ages up to six years, so as to have them of different sizes; therefore all vacancies must be made good by putting in suckers every year. The plants should be removed every year if they grow vigorously, so as to cause more sturdy growth and the formation of bloom buds. Standard plants are very useful for varying the monotony of flat surfaces, but are somewhat difficult to form, from the tendency to produce suckers. The white Lilac is less disposed to produce these than the others, and it might be employed as a stock. Whether as standards or half-standards, respectively 6 feet and 3 feet high, with good heads they would be really handsome for conservatory decoration. How they would succeed grafted standard high on the Ash, is a subject for experiment; but it is worth a trial.

When forced, the Lilac requires to have an abundant supply of water, and a light, airy house, with bottom heat if it can be secured. Growing plants in darkness, in order to produce white flowers on purple-flowering plants, or even to make white flowers more delicate, is absurd, though it certainly is curious to see the change undergone by a plant grown in darkness day by day. When it is exposed to light, how it strives to get back its natural beauty!—G. Abbey.

GARDENING IN TEXAS.

Although gardening here does not generally receive so much labour and care as it does from many northern people—especially those who have market gardens near large cities—among the farmers of Texas, yet we have many, very many good gardens. Some of our gardens, in the variety and excellence of their vegetables, and the number and beauty of their flowers, are superior to those commonly seen in the northern States. Here, ladies often superintend and work in the gardens, and ladies generally better appreciate good vegetables, and enjoy more the beauty of flowers, than men. Previous to the late civil war, it was customary, throughout the entire south, for planters' wives and daughters to have charge of the garden. It received much of their care, and was tilled under their direction. This custom still extensively prevails in Texas. Under the superintendence of ladies, some of the finest gardens and grounds in the entire south were made. Many of those in the vicinity of Charleston and Savannah were thus formed. To specify examples in other places, we mention the Preston or Hampden garden, as it was, at Columbia, before the war; also the Magnolia Grove garden of Mr. Brown, beneath the hill on the banks of the Mississippi, at Natchez. I have seen many beautiful gardens in the northern States, but never anything equal to what these were in 1858.

To return to Texas. Our climate and soil is better suited to gardening than that of the north. Here we can grow all the vegetables and flowers cultivated in the north, also many others of a semi-tropical nature. Two crops of the same species of vegetable can here be grown in the same season. Many people in Texas consider August the most important in the year to make gardens, because many vegetables then sown or planted attain maturity, and their greatest perfection, during the cool months of autumn, such as Cabbage, Broccoli, Cauliflower, Kale, Savoys, Endive, Brussels Sprouts, Celery, &c. Then (August) Melons and Cucumbers are again planted, also Beans and Peas. Then, and in September, are sown Radishes, Lettuce, Curled and Water Cress, Parsley, Onions, Parsnips, Spinach, Carrots, Leeks, Beets, &c.

In our own garden, we had green Peas and Beans in April, green Corn in May, also summer Squashes and Cucumbers; Lettuce and Radishes in March; white Potatoes the 1st of June, and Sweet Potatoes the 1st of August. Indeed, with a little care, by planting in succession, we can have in our garden a plentiful supply of fresh vegetables for table use during the entire year. This is a great advantage, which is not generally appreciated here. Our Melons are delicious. One Water Melon, weighing 60 lbs., was sold in the market at Austin this summer. Water Melons become ripe here about the last of June, and last until frost, which generally comes about the last of November. They are remarkably healthy, and much superior in taste to those grown in the north.—(*American Gardener's Monthly.*)

WORK FOR THE WEEK.

KITCHEN GARDEN.

Make it a rule never to allow the haulm or leaves of plants to remain on the ground when the crop is gathered. A conve-

nient place outside the garden should be appropriated to the garden refuse; and before the leaves, &c., are wheeled to the heap, let a sprinkling of ashes or charred refuse be placed over each layer, by which a heap of valuable manure will be formed. When the ground is dry proceed with digging up vacant spaces, throwing the land into ridges, that it may be effectually exposed to the influence of frost. It should be a rule to double-spit or trench land every alternate year at least; but when two crops are taken off the same place yearly, trenching should alternate with digging every time the ground is cropped. On the first fine morning take up *Beet* and *Carrots*, and spread them on the surface to dry till afternoon, when they may be removed to the storing room and there spread out again till they are quite dry, after which they may be stored in dry sand. Constant attention will be necessary for some time in examining them to see how they are likely to keep. Remove the decaying leaves from *Brussels Sprouts* and *Broccoli*, and from all other growing crops, carrying them at once to a piece of ground if vacant, where they can be trenched into the soil, sprinkling them first with quicklime to destroy the snails and slugs with which they swarm at present, as well as to hasten decomposition. Stir the soil among *Cauliflower* plants under hand-glasses, and sprinkle the surface with charcoal dust when to be had. Attend to the earthing-up of *Celery*. Take advantage of a fine day to tie up *Endive* and *Lettuce* for blanching. Turn over and rope up *Onions* on wet days. Examine *Potatoes* and any other roots which are stored away.

FRUIT GARDEN.

Prepare ground for new plantations of Currants and Gooseberries. Cuttings of favourite sorts of Gooseberries may now be made, and planted in beds manured with leaf mould and sand; the latter will aid their rooting, and the former will hasten their growth.

FLOWER GARDEN.

When the unfavourable weather has taken effect on Lobelias, Salvia patens, and similar plants they should be taken up, especially where the flower stems are killed as well as the leaves. The Salvias, however, ought to be left in the ground until the stems die down, as the roots will be thereby much benefited. The best way of keeping these plants is to place them in pots merely sufficient to hold the roots, using rather dry soil, and set them where they will be dry and cool. A few degrees of frost will be less hurtful than heat; they must receive no water until they commence growing. Scarlet and other Pelargoniums for turning out in spring ought to receive the same treatment, only they cannot be too soon taken up after their beauty is once destroyed. Although the old Chinese Rose is very much neglected as compared with what it used to be, it is by no means unworthy of a place in pleasure grounds, even with all the attractions that newer sorts possess; the more it is cut the greater will be its profusion of flowers, and cuttings put in now in an open border, leaving one bud above the ground, will strike root readily. Borders or beds for bulbs should be well drained, and somewhat raised above the general surface with some good hotbed dung, fresh soil from an old pasture, and some sand. What dry surface heath soil is to Cape and New Holland plants, virgin soil, as it is called, is to bulbs of various kinds. Use such open-textured material as fern and straw for protecting tender Roses, as the air will be diffused throughout; it will not only keep the heat in and the cold out, but prevent that stagnation which moss and all such close materials invariably cause, particularly if much rain falls. Not a day should be lost, now the weather has become settled, in making up Pink beds. So much improvement has taken place lately amongst these flowers, that amateurs, unless they have added to their collections regularly, will find themselves apparently a century behindhand. Dahlias are still blooming in many places, but rather miserably. As soon as the tops are blackened by frost take them up, otherwise they are apt to start at the crown. Cut them off about a foot long, and place them in such a manner that the sap which exudes may not run into the hollow stem; should it do so decay will be the probable consequence. Small pieces of zinc or lead attached to copper wire are best to mark them with, or the zinc may be stamped with a number corresponding with the name in the book. Plant offsets of Tulips, and arrange the best bed definitely previous to planting when the soil is sufficiently dry; the sooner the better.

GREENHOUSE AND CONSERVATORY.

As the beauty of out-door plants gives way before the storms of autumn the conservatory should be made as attractive as possible, as it will now become in some respects the only place where flowering plants can be inspected with comfort in unfavourable weather. To assist this let the requisite arrangements both as regards watering and changing the plants take place early in the day, that the effects of the watering, syringing, &c., may be removed, and an agreeable dryness pervade the house, before it is visited by the family. No pains must likewise be spared to keep the house gay by introducing plants in succession as they come into bloom, including a portion of the stove plants which have been grown expressly for this purpose. A little gentle forcing will bring the different varieties of Epiphyllum truncatum into bloom; and with the addition of Chrysanthemums, late Fuchsias and Pelargoniums, Pancratiums, Amaryllids, Mignonette, Neapolitan Violets, &c., a tolerably gay appearance may be maintained until the time when forced plants will be more generally available. Let the admission of air be well regulated, so as to preserve a gentle circulation throughout the house in mild weather without causing draughts. Fires will be necessary, not so much for keeping up the temperature, except during frost, as for the purpose of promoting a medium state of dryness in the external air, so as to make the house enjoyable in all weathers. Some of the most useful plants for house decoration during winter and spring, when subjected to gentle forcing, are the different kinds of Rhododendrons, Azaleas, Kalmias, &c., usually termed American plants. As these have now perfected their buds, plants well furnished with buds can easily be selected for the purpose. Without naming each particular kind suitable, I may remark that many of the hybrid scarlet Rhododendrons which, owing to their earliness, rarely bloom in perfection out of doors, are the best for early forcing, coming into bloom with but little trouble. After selecting the plants from the nursery have them potted in peat in as small pots as the roots can be well placed in; they may then be watered and set in a pit or empty vinery to be brought forward as required, beginning very gently with them at first in a moist heat, and increasing the heat as they advance towards blooming. Pelargoniums should be placed rather near the glass, to preserve a short-jointed and sturdy habit of growth; all useless shoots should be thinned out, and the principal shoots pegged out at regular distances, so as to maintain a due balance of shape. Thorough cleanliness should be maintained at all times in respect to stages, glass, and floors. If these directions be attended to the spotted leaf will not show itself, neither will the plants require many sticks to assist them, but a healthy sturdiness will at all times be maintained. Now is a good time to cull out from the first-struck batch of herbaceous Calceolarias some of the best plants, and give them a liberal shift, using fibrous light loam, rubbly charcoal, and sharp clear sand intermixed. These plants, with due attention throughout the winter, will make large specimens, and produce a good show in the conservatory or mixed greenhouse. The Cinerarias intended to flower as specimens early in spring should now receive their final shift. If Mignonette to stand the winter has not yet been sown, sowing had better now be deferred till spring, when a little put in early will bloom nearly as soon as plants from seed sown now, and the difficulty of wintering it will thus be avoided.—W. KEANE.

DOINGS OF THE LAST WEEK.

SOMEWHAT unexpectedly we had a severe frost on the morning of the 19th, followed by mild weather. We were not unprepared, as for several nights the temperature was close on the freezing point, and accounts in the newspapers of snow storms in the north, and the north wind, ought to have made us additionally careful. If we had expected 8° below the freezing point on a north wall 5 feet from the ground, and nearly 10° on the ground level, we certainly would have protected Scarlet Runners, &c., more than we did. We covered Cauliflower in head not sufficiently protected early in the morning, and it has not suffered. The only crops injuriously affected were Kidney Beans and Scarlet Runners; and of Pelargoniums, some good plants of variegated Alma were softened to their base. Dahlias were blackened, and we were sorry for it, as the flowers were so useful; Heliotropes were also blackened in low-lying places, but in raised beds they were little injured. A few Scarlet Pelargoniums in raised beds are still rather bright, but, of course, with the exception of masses of scarlet Salvia fulgens, the glory of the flower garden is over for the season, though now most likely we shall let the beds remain a little longer, as a few plants look well with their green and variegated foliage. A fine line of Bijou Pelargoniums is still untouched, and many blooms

are now fully open after the bright sun of Thursday. The dull days of Friday and Saturday have made the beds look duller than they otherwise would do. A fact is here worth mentioning. Scarlet Pelargoniums close to our own door, protected with walls quite close to them, have suffered more than those in the open lawn, with a rather free exposure to the wind; and another fact is, that in these exposed beds the south side is the best, the very place where the sun would beat first on the frost-hardened foliage. On the north side of the beds the foliage is nearly as fine after the nipping, but the flower trusses are almost gone; on the south side many of the trusses of bloom are wonderfully full and bright. Much, no doubt, is owing to the comparative dryness of the soil, but the sunny side being the best after such a sunny morning, is not what is generally expected after a severe frost; but here in every case the south side is the best, which we can hardly account for in connection with previous conclusions founded on observation. Calceolarias, though stiff, soon recovered. In the afternoon following the frost we took off a great many cuttings, and placed them under cover, fearing we might have a repetition, but the wind changed, and we had mildness instead of frost, and now we can go to the plants and take off thousands of fine cuttings that do not show a trace of the frosty night.

KITCHEN GARDEN.

Celery.—We do not usually earth-up our late Celery until the end of the month; but as the sun has now little power in causing the Celery to evaporate moisture, and as the frost might injure it a little, we gave a little earthing-up to the whole, except the last planted, and as we were anxious to keep it clean, we used a little sifted coal ashes and cool burned earth and ashes round the plants by means previously adverted to, and then pressed the well-pulverised earth close to the ashes. This is more necessary in our somewhat stiff soil, and especially when the Celery is grown in beds, as we generally do, from three to five plants across—a plan that on the whole saves much space and labour. If we had plenty of litter, as stubble, &c., we would never earth-up too high as respects late Celery, but pack up with material of this kind, as it blanches the plants very well, keeps the frost out, and if rounded over a bed, when once the surface is flattened and crusted, it throws off the heaviest rains. We have several times recommended highly, and not in the least too highly, the Dwarf Incomparable White, but a red sort sent to us for trial by Mr. Welch, of the Palace Gardens, Armagh, has also proved remarkably good, blanching more quickly than reds generally do, being very firm and sweet, and as yet less marked on the outsides by enemies than the white is. We shall be glad to find it stands wet and frost well; at present it seems a good variety.

Mushrooms.—We have spawned and earthed-up two pieces in our Mushroom house, shallow beds on shelves. We should like one to show its produce in about a month, having as yet a good supply in the outside sheds, as lately adverted to; but though the first of these pieces in the house kept all right as tested by the trial-stick, we find within a few days that the bed has become colder to the hand than it ought to be with the spawn working freely, which always produces a little heat of itself; and as we did not find it convenient to cover the bed, nor to heat the house at present, we put a dozen barrowloads of droppings, &c., on the space beneath. This will soon make the bed as hot as we wish it to be, and bring in the Mushrooms as early as we want them. We attribute the bed's becoming a little too cold to the mixing rather too much fibrous loam with the dung; but the dung was rather open and rough, and we used the loam to make it firmer, and to prevent its heating so violently as it would otherwise have done, as the more violently the manure is heated, the more will its nourishing properties be driven off. In our sheds more covering was placed on the beds after the frost. A Mushroom house is very useful, and for other purposes besides Mushrooms, but simple plans answer as well as the more complex and elaborate; and after trying many modes, and being successful with them all, at least fairly so, we must say we never had better Mushrooms than on ridges out of doors. Of course in winter they had to be kept warm by covering, and in summer they had to be kept cool by covering, and having that covering rather damp, instead of dry as in winter; but then there was considerable labour in covering and uncovering, much more than where there was the advantage of a house or even a shed roof to keep snow and rain from the beds.

Cauliflower.—The young plants pricked out in squares for hand-lights had the bottoms of the hand-lights put over them, and as they were in bad order the holes were filled-up with slates and tiles firmly fixed against them. In severe nights a few evergreen twigs will be laid across. The tops that seemed as if they had been riddled by shot must lay aside until we have a wet day to clean and reglaze them. A wet day is our busiest day; there is no want of in-door work for such days. We must try and prick out a frameful of plants, and place others in a sheltered position. We have succeeded well with plants placed singly in small pots, and repotted and planted-out in finely-pulverised soil in March and April, but generally we have done as well with plants pricked-out 3 or 4 inches apart and lifted with balls. In pricking-out, though the soil be pretty rich, the plants will do better and be saved from many enemies, if they have a surfacing of rough sand on the ground.

Cucumber Beds.—These require banking-up to keep them on. We rather reluctantly pulled the plants out of a two-light box, as we wanted the space for another purpose. We mention this, however, chiefly on account of a certain fact—namely, that there was a fine moist bottom heat in that bed, though it had not been touched since it was made up in March, and then, be it remarked, it was made up chiefly of green dung as it came from the stables, suitably moistened and mingled so as to keep up a long, gradual fermentation, and the bed was then surfaced with older sweet dung and tree leaves. The surfacing and the soil kept down all deleterious vapours, whilst the heat was allowed full play to rise, which it has done regularly all these months. We have seen manure turned and sweetened to such a degree, and built so firmly together, that not a breath of air could penetrate into it to support decomposition, and thus after a violent heat the flame, as it were, expired, either because there was nothing to burn, or no air could reach the material to make it burn, and it went out like a candle under an extinguisher. The making of a hotbed to last, as practised by some of our old gardeners, who looked on so many turnings and sweetenings as so much waste labour, is pretty well lost amid the improved systems of heating. Nevertheless, let it be borne in mind, that old dung hotbeds are not the worst means of securing those results which prevent even cooks having the chance to grumble. We know cases where there is abundance of fire and water, but a little dung can scarcely be had for producing fine, close, crisp Cauliflowers.

FRUIT GARDEN.

We had gathered almost all our fruit before the frost, as a few nights had been so close to, and even below the freezing-point. The leaves of the trees were rather green and flourishing for the season. Never did one night produce such a change as was effected on many trees. The crisp green leaves on one evening were brown before the next, looking as if a scorching fire had been placed beneath each tree. The men said the leaves looked as if they had been burned, and resembled the foliage of some Chestnut trees, which, being near the ground, were affected by the heat from our burning and charring heaps of rubbish. The dry heat from the fire and the dry air from the frost had acted much the same—namely, deprived the foliage of its moisture. Some time ago, when treating on ventilation in winter, and venturing on the remark, that allowing great blasts of cold frosty air to enter a hothouse would have nearly the same effect on tender plants as sending among them dry, very hot air from a furnace, we had several letters sent to us, the purport of which was to tell us we had taken leave of our senses. "Why, you might as well tell us that a tropical sun and an arctic winter would in any case produce similar results." Well, our best answer is to refer to the appearance of many hardy fruit trees on the morning of the frost. The man who noticed such a marked parching-up effect from frost, and then admitted cold frosty air freely among tender plants, has profited but little by the faculties of observation with which he has been endowed. It is pleasant to note the proofs of progress about us; but that progress would be all the more certain if our younger gardeners, the hope of the future, and in some respects the stay of the present, would not be above the habit of attending to little things and little facts, and from these drawing practical inferences. The shrivelling up of a green leaf by a trifling frost, making it like a piece of half-burnt linen, may well give a lesson that though fresh air is desirable, the air, if dry and cold, should not come in contact with a tender plant in a house before being considerably moistened and warmed.

Peach House.—Wanting room to house numbers of bedding plants for a few months, we have had the glass of this house washed with soap and water, all the remaining leaves removed, and the trees and woodwork well syringed with soap water as warm as it could be applied, using a cloth on the syringe to

protect the hand. Of course, if such water was at a temperature of 200°, it would not be above 160° or 170° by the time it reached the trees, and few eggs of insects will resist that heat. Of all cleansers we prefer warm water. The soap is also a help, and we prefer soft soap, say a common table-spoonful to five gallons of water. After thus syringing the woodwork of the trellis, &c., the wood of the trees was washed with similar water, employing large soft-hair brushes for the purpose; but as the hand had to be used beneath the twigs, the water would not be warmer than 125° or 130°. The displacing of insects' eggs under such circumstances will generally settle them. Then the woodwork of the trellis was coated with quicklime paint, so as to make that all secure. We would much approve of a wire trellis, but, though we have waited for it for years, there the wood is, and we must prevent its being a harbour for insects' eggs. As a farther security we painted the trees all over with a soft brush, and a paint formed of a little soft soap and sulphur, with a good bulk of clay. Without saying a word against Gishurst or the many other paints used, we are almost of opinion that good clay paint of itself is very nearly as good as the best of them. A little soft soap in the water used causes it to adhere all the better. The chief object of all such painting is to smother up all insect eggs if there be any, and cause them to perish from want of air, and nothing does this better than clay. As the buds begin to expand the clay begins to crack, and if it seems to hold them rather tightly a slight dewing from the syringe makes it soft. There is no danger of an overdose, as may soon be the case with some of the other compositions. Sulphur is generally an ingredient in all such preparations, but in its simple state we know of no case in which sulphur is injurious to insects. The fumes of sulphur will drive off, if not kill, the red spider, but amongst sulphur itself we have seen the spiders disporting themselves as so many sand boys.

In this house we had scarcely an insect last season, except a few green fly on Strawberries; but it is well to err on the safe side, as though most of the aphides and other insect enemies are viviparous during summer, the first invading army in the spring generally comes from hosts of eggs that have remained in a state of dormancy in winter. The surface soil was likewise scraped off, and some warm water applied over the new surface with a rose. A little flowers of sulphur may be dusted over the ground, if the trees show any sign of mildew on their tops or roots. These processes may well be gone through even as matters of precaution. We have only done this as yet with the bulk of the house, so as to cover the floor with boxes of plants; the trees on the back wall will likely remain unwashed, except for the syringing referred to, until we have a wet day. Much of the general economy of managing a garden will ever consist in the right timing of labour. Prevention in the case of insect attacks is even better than any mode of getting rid of them. We have been perfectly astonished at seeing the bills for tobacco and other killing agents used in some gardens. Better, if possible, prevent insects appearing.

ORNAMENTAL DEPARTMENT.

The clearing of our Peach house, except the back wall, and covering the floor with boxes of bedding plants beneath the trellis, and the front shelves, &c., with the same, gave us a cold pit at liberty for *Calceolaria cuttings*. This pit is too deep for our purpose, and sometimes we put fresh earth on the surface of what is left, and plant the cuttings in it. We prefer, however, doing all afresh, and so as to have a rather open instead of a close, firm bottom. We therefore take out the soil and the little rotten dung and leaf mould, place, say one large or two small barrowloads of dry litter in the bottom of each light, tread it firm, follow with 2 or 3 inches of half-rotten dung, and then with an inch of roughish sweet leaf mould, mixed with riddlings of fibrous loam, and well tread again. Next follows a layer of 2 inches of fresh fibrous sandy loam, with just a very little leaf mould and black dust from our charring heap; then we tread, level, and surface with a quarter of an inch of road sand collected in hollows after floods. In this the cuttings are inserted in rows, from 2 to 2½ inches apart, and from 1 to 1½ inch apart in the row. Sometimes there are a few failures. Last season not one cutting in two thousand failed to strike. The cuttings are firmed, and when a light is done the soil is well watered through a fine rose. Frequently before watering a little fine sand is strewed by hand along the rows, which fills up all the holes, and causes the cuttings to be very firm. This season the cuttings are rather too large, and require either to be topped or the leaves much reduced. We greatly prefer short, stubby side shoots, taken off with a heel close to the old stem, the cuttings averaging 2½ inches in length. These were clean cut at the heel, two or three of the bottom leaves removed, the top ones, if large, shortened, but the young leaves in the centre of the growing point left untouched. After the first watering the cuttings will need no more for a long time, except a gentle dewing on a sunny day, a little shading when the sun is powerful, and the sashes shut down then, but a little air given at the back night, afternoon, and morning in mild weather, shutting up closely only when frosty. These Calceolarias will be early enough if they begin to strike root about the New Year, and then we place them in earth pits in the middle of March to give them room to grow strong and bushy, so as to lift with balls in May. Last season, from inserting the cuttings until about finishing blooming, the Calceolarias were never visited by an insect. Coddling and fire-heated places have spoiled thousands of Calceolarias.

Centaurea candidissima and Verbenas.—The Cucumber bed referred to, and one of a similar kind, after being fresh turned up for a foot or two, a little fresh material added at the bottom, and a layer of dry ashes at the top, was devoted to the purpose of giving a little encouragement to cuttings of the above. We stated last season how old plants of Centaurea can be treated successfully, but old plants, except for a few centres, are comparatively useless, as the smallest plants in spring will soon be large enough in summer when planted out of doors. The smallest hits strike easily in heat in spring. It requires larger pieces to strike well in cold pits in summer and autumn. There is no difficulty in raising a fine stock from cuttings inserted at the end of July and the beginning of August; but we could not take off ours so soon, and we thought we would prefer a lot of young plants to the old ones, as taking up less room. What we put in by the beginning of September are well struck. What were inserted from the middle to the end of that month in pots in a cold pit, though all sound, are merely callusing, only a few beginning to root. These, if we could have spared the room, we would have inserted each at the side of a small pot, as the roots are so brittle. We have adopted the next best course—namely, placed two cuttings in a 3 inch pot, with a piece of slate or tile down the centre of each pot, so that the roots will not much intermingle. These, with the soil sufficiently moist, we have moved to the gentle hotbed, surfaced with dry ashes, and in them plunged the pots. In from a fortnight to three weeks we expect every pot to be filled with roots, when the pots can be set anywhere under protection, as it takes a considerable degree of frost to injure the plants. Damp is a greater enemy. To some Verbenas which were rather late, we have given a similar help. Tender kinds of Pelargoniums have been taken up and repotted; the bulk are still uninjured.—R. F.

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Select List of New and Choice Pelargoniums, Auriculas, Carnations, Picotees, &c.—Catalogue of Roses, Fruit Trees, Coniferæ, Hardy Trees, Shrubs, Climbing Plants, &c.*

G. Jackman & Son, Woking Nursery, Woking, Surrey.—*Catalogue of Plants.*

COVENT GARDEN MARKET.—October 27.

A slight improvement in business has enabled us to reduce our stocks, but without any advance in price, the great bulk of fruit being of only second-rate quality, and having evidently been much injured during the late storms. Some consignments of Chaumontels from the Channel Islands have come to hand this week, but they are not fine. Vegetables are abundant and excellent.

VEGETABLES.

	s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0
Asparagus 100	0	0		0	0
Beans, Kidney ½ sieve	3	0		4	0
Broad .... bushel	0	0		0	0
Beet, Red.....doz.	2	0		3	0
Broccoli .....bundle	1	0		0	0
Brus. Sprouts ½ sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0
Capsicums 100	2	0		2	6
Carrots.....bunch	0	4		0	8
Cauliflower..... doz.	3	0		6	0
Celery..... bundle	1	6		2	0
Coleworts ..doz.bchs.	2	0		4	0
Cucumbers .... each	0	6		1	0
pickling .... doz.	0	0		0	0
Endive .....doz.	2	0		0	0
Fennel .....bunch	0	3		0	0
Garlic ..... lb.	0	8		0	0
Herbs ..... bunch	0	3		0	0
Horseradish ..bundle	3	0		5	0
Leeks ..... bunch	0	4	to	0	0
Lettuce..... score	1	0		2	0
Mushrooms.... pottle	1	0		2	0
Mustd.& Cress,punnet	0	2		0	3
Onions ..... bushel	3	0		4	0
pickling .. quart	0	0		0	0
Parsley ..... sieve	3	0		0	0
Parsnips ..... doz.	0	9		1	0
Peas ..... quart	0	0		0	0
Potatoes .....bushel	2	6		4	0
Kidney.... ditto	3	6		4	0
Radishes doz.bunches	1	0		0	0
Rhubarb..... bundle	0	0		0	6
Savoys..... doz.	1	6		2	0
Sea-kale ..... basket	0	0		0	0
Shallots .....lb.	0	0		0	6
Spinach .....bushel	2	0		3	6
Tomatoes ..... doz.	0	9		1	9
Turnips ..... bunch	0	4		0	8
Veget. Marrows..doz.	1	0		2	6

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	1	0	to 1	6	Mulberries .... quart	0	0	to 0	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	0	0	0	0
Cherries..... lb.	0	0	0	0	Oranges 100	8	0	14	0
Chestnuts.... bushel	0	0	0	0	Peaches ..... doz.	8	0	15	0
Currants .... ½ sieve	0	0	0	0	Pears, kitchen .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	dessert .... doz.	3	0	5	0
Figs ..... doz.	2	0	4	0	Pine Apples ..... lb.	3	0	0	0
Filberts ..... lb.	0	6	1	0	Plums ..... ½ sieve	3	6	5	0
Cobs ..... lb.	0	6	0	9	Quinces ..... doz.	1	6	2	6
Gooseberries .. quart	0	0	0	0	Raspberries ..... lb.	0	0	0	0
Grapes, Hothouse . lb.	2	0	5	0	Strawberries .... lb.	0	0	0	0
Lemons 100	15	0	21	0	Walnuts .....bushel	10	0	16	0
Melons ..... each	2	0	5	0	do. 100	1	0	2	0

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

Camellias (*W. G. C.*).—All those you mention are in the catalogues of Messrs. Veitch, Williams, Rollisson, and others.

Rockwork at Oak Lodge (*P.*).—We are informed it was constructed by Mr. Pulham, Terra Cotta Works, Broxbourne.

Seedling Pelargonium (*Peter*).—Your seedling Polargonium is very pretty, but not distinct enough from many varieties that have been raised from Mrs. Pollock to make it of any value as a new variety.

Pansies for Breeding (*Idem*).—For the darkest Pansy, Ladyburn Beauty: and the other best six Pansies for saving seed from we consider to be Comus, fine yellow; Mary Russell, fine white; Alexander Tait, fine dark self; Imperial Prince, purple self; Mr. J. Ingram, dark plum; and Alice Downie, light cream.

Pinus for Clay Soil (*Stikes*).—We think your soil needs draining. Pinus austriaca succeeds where many others fail, but if your ground were drained, there are few of the Pine and Fir tribe that would not succeed. There is no evergreen tree that would suit you.

Tricyrtis hirta not Flowering (*Tweedside*).—We can only account for the plant not flowering from its being grown in too cool a place, and in heavy soil. It likes an open but sheltered situation, and a rich fibrous loam, with a free admixture of sand or gravel, and good drainage. It is a fine herbaceous plant but recently introduced from Japan, with large branching corymbs of starry flowers, often more than 2 inches across. The flowers are finely spotted with purple.

Seedling Ipomœa (*Old Subscriber*).—Do not cut the plant down now, but keep it dry during the winter, and prune it in spring, only thinning out the shoots. It will probably flower next year. The best compost is two-thirds sandy fibrous loam and one-third leaf soil, or sandy fibrous peat, with a free admixture of sharp sand. Good drainage is necessary. Keep the plant near the glass, and give it abundance of air.

Cucumber Leaves Diseased (*Idem*).—We do not notice anything the matter with the leaves, except that they appear to have been attacked by red spider, though there was none on the leaves sent us. Heat the pipes to a temperature of 160°, and paint them with sulphur, keeping the house close: The sulphur should be mixed with a solution of 4 ozs. of soft soap to a gallon of water. The soft soap will make it adhere longer and better to the pipes. Keep a moister atmosphere, and supply the roots copiously with water.

Magnolia for West Wall (*K. W.*).—The Exmouth variety of M. grandiflora is the best on account of its free-blooming habit. No climber would succeed on an east wall on which the sun never shines; but Roegner's Ivy is one of the best.

Thorn and Holly Berries (*I. I. D.*).—The berries of the Holly and haws of the Thorn need not be buried unless you like. You may keep them until next February and then sow them, but they will not grow until the following spring. The advantages of burying them for a year are, that they occupy but little room, and the ground they would require if sown when they are gathered may be used for a more advantageous crop. The berries ought not to be gathered until they are quite red, and they should be laid in a heap for a few weeks, and pitted, say in December. They should remain in the pit for twelve months, and then be spread out rather thinly to dry. In February or March they should be sown. To pit them now and sow in spring would only be labour in vain, as few, if any, plants would appear next year, only you might take a crop off the ground next year, and sow the haws and berries the following year.

Potato Onions not Keeping (*A. H.*).—The Onions were no doubt grub-eaten before you took them up, and the decay is only a consequence. Shallots very often do the same. We know of no remedy; but a good dressing of lime and soot to the ground before planting, and blackening the soil with charcoal or wood ashes, neatly pointing them in before planting, will in most cases prevent the attacks of insects. The Onions ought to be pulled up as soon as the tops begin to turn yellow, and be well dried in the sun before storing them.

Painting Hot-water Pipes (*A Constant Subscriber*).—Nothing is better than lampblack brought to the consistency of thin paint with linseed oil and turpentine, one-third of the latter to two-thirds oil.

Manure (*H.*).—If you can obtain good stable manure for 5s. per load, you will find no fertiliser cheaper. Some artificial manures, and sewage would aid you. Read "Manures for the Many;" you can have it by post from our office, if you enclose four postage stamps with your address.

Tank-heating Pits (*F. W. G.*).—We think you can do all you desire with your tanks in the pit, and as you propose. Load will do well enough for the connecting pipes from the boiler if they do not come in contact with the fire. If they do, you had better have iron for a foot or two in length. We would prefer zinc to block tin for the tanks, and we should prefer them at least 3 inches in depth instead of 2 inches, as, though deep tanks are mere waste, it is possible to have them too shallow. Will not five divisions in a brick pit of 20 feet in length take up a little too much of the space, unless, indeed, you have thin wooden or tin divisions, to move at your pleasure? We often use a thin wooden movable division, made to slope like the rafter. We hardly know what a pit of this kind would cost, as we know nothing of its size except its length, but a bricklayer will easily tell you from its size, and then you must consult an ironmonger. We do not think block tin would last any considerable length of time.

Marvel of Peru in a Bed (*Lycia*).—The Marvel of Peru, after being raised and its tubers formed, may be treated much the same as Dahlias. They might be long bloomers in a greenhouse, but the first frost kills them. They are poor compared with the Gladiolus. Why not combine them—plant the Gladiolus in rows and the Marvel of Peru between them? and as the Gladiolus flowers begin to fade the Marvel of Peru would come in. The Gladiolus succeeds well in Rhododendron beds. We have had some fine rows, near which Salvia fulgens was planted, and as the Gladiolus went off the Salvia formed a scarlet hedge.

Turf Pits (*H. V.*).—We much approve of having your pits above the ground level. Why have two turf pits, 4 feet by 5, against a wall? Would it not be better to do away with the division, and thus save space? We think the paraffin lamps would do all you require, with the help of a mat over the glass in a severe night. We hardly know what you mean by a stove placed outside and the chimney running through the back of the pit. If an iron stove, it will not do, as a long horizontal pipe never answers. If a furnace sunk below the level, it would answer, be the pipe or flue what it might, and if your pit were from 20 to 30 feet long, we would recommend it.

Half Sieve and Sieve Measures (*W. Thompson*).—The following is the statement in Hogg's Gardeners' Year Book. *Half Sieve.*—Contains three and a half imperial gallons. It averages 12½ inches in diameter, and 5 inches in depth. *Sieve.*—Contains seven imperial gallons. Diameter 15 inches, depth 8 inches. A sieve of Peas is equal to one bushel; a sieve of Currants twenty quarts. *Bushel Sieve.*—Ten and a half imperial gallons. Diameter at top 17¾ inches, at bottom 17 inches; depth 11¼ inches. *Bushel Basket.*—Ought, when heaped, to contain an imperial bushel. Diameter at bottom 10 inches, at top 14½ inches; depth 17 inches. Walnuts, Nuts, Apples, and Potatoes are sold by this measure. A bushel of the last-named cleansed, weighs 56 lbs., but 4 lbs. additional are allowed if they are not washed. A junk contains two-thirds of a bushel.

Arrangement of a Circular Bed (*Flora*).—We ourselves do not like the white Cerastium to be backed by the yellow Calceolaria; a compact blue Lobelia would be better. If you could manage four beds we would plant as now, but with the Lobelia between the Calceolaria Aures floribunda and the Cerastium; for instance, Scarlet Pelargonium, Aurea floribunda Calceolaria, Lobelia, and Cerastium. If you can only have three, have the Lobelia next the walk. Nothing, however, is better than the Cerastium when well kept and regular. It is a good system also to change your cropping. You might, therefore, have Amantia multiflora Calceolaria for the back circle, Little David Pelargonium for the second, and Cerastium for the third. If you could have a fourth, have Purple Verbena between the Pelargonium and Cerastium.

Potted Vine in a Greenhouse (*C. E. W. C.*).—You will succeed best with your Black Hamburgh Vine in a greenhouse by setting your plant in the pot in the house from the beginning of March or the end of February, and allowing the Vine to break naturally with the general temperature of the house. You ask the size of the pot to be used, soil, &c. The Vine will fruit best in the pot in which it has grown this summer, but if it is in a pot less than 15 inches in diameter, you might shift it into that size now, ramming the soil rather hard, and then plunge the pot over the rim in litter, so as to give it for a time a temperature at the roots of from 50° to 60°, leaving the head of the Vine exposed. Fibrous loam, with some bits of broken boiled bones, will be the best soil. If the pot is of the size stated above, merely remove carefully an inch or more of the surface, and replace it with rich fresh compost.

Vines for a Cool House (*A Ten-years Subscriber*).—The house you are about to put up against your garden wall may be taken down at the expiration of your lease if the plates are not fastened to the foundation, nor to the walls. For fruit trees to succeed on the wall, the Vines ought not to be planted more closely together than 4 feet, and for the trees to succeed well after the Vines reach the top of the house, the Vines should be 6 feet apart, which is the distance we recommend when trees on the back wall are expected to fruit. If your object be Grapes, and you do not much care what is grown on the back wall, you may have the Vines 3 feet 6 inches or 4 feet apart, and occupy the back wall with Figs, which thrive exceedingly well with the Vines. In this case you will have twenty-four Vines, and eight Figs on the wall. What we, however, advise is, if you wish for more kinds of fruit trees than Grapes and Figs, is to plant the Vines 6 feet apart, and have Peach and Nectarine trees on the back wall, with a few Apricot, Plum, and Fig trees in pots on the front border. The most suitable *Vines* are, one Early Saumur Frontignan, two Chasselas Vibert, three Foster's White Seedling, two Buckland Sweetwater, two Trentham Black, four Black Hamburgh, one Black Champion, one Espiran. *Peaches:* one Early York, two Grosse Mignonne, one Galande. *Nectarines:* one Elruge, one Rivers's White. In pots on the border, but not shading the trees on the back wall—*Apricots:* two Oullins Early Peach, two Peach or Grosse Pêche, two Moorpark, two Kaisha. *Plums:* two July Green Gage, four Green Gage, four Jefferson's, one Golden Esperen, four Coe's Golden Drop, one Transparent Gage. *Figs:* two Early Violet, three Brown Turkey, and three White Marseilles. If you have the Vines and Figs only, the varieties last named will be suitable for the back wall in place of the Peach trees.

Vine Border (*West Cumberland*).—Your inside border having no communication with an outside border will grow Vines perfectly well if you be careful to keep them duly watered. Keane's two little volumes "Indoor Gardening" and "Out-door Gardening" will suit you. They can be had by post from our office if you enclose forty postage stamps with your direction.

Pruning Young Vines (*J. H.*).—We would leave for next year the most

of the 1½ foot of good wood made. Add a little lime rubbish and a few broken bones to the soil, and mulch the roots with rotten dung. See ground vinery, page 312, of our No. 446.

Vines in an Unheated Peach House (*New Forest*).—In such a house four Vines will do very well, and be no great injury to the Peaches. We do the same, still the Peaches would be better without any shade except what we choose to give. Where both are grown a compromise must be made.

Grapes Small and Seedless (*J. C. M.*).—We have no doubt, that not want of room for the roots, but their going down into the dry, sandy, rocky soil, and more especially after such a season as last year, is the chief cause of the berries of the Vines being seedless, refusing to swell, and shanking-off as they are now doing. The mulching and the watering were all right enough, though under the circumstances coming too late, and when the waterings and rains penetrated to the dry roots, the sudden excitement and the free flow of sap were too much for some of the berries, and they cracked in consequence. A 12-feet-wide border is a fair size for an ordinary house, but one 18 feet wide would be better. The walk, if important, might remain where it is, with good soil beneath a shallow layer of gravel. Adding fresh soil to the extremities would also be useful, and in such a steep border as a 4-feet fall in 12 feet in width, mulching and watering at the surface so as to encourage the roots upwards, would be a matter of importance. We can well understand how the Grapes would shank and shrivel, though the wood and the leaves seem so healthy. This is often the case when the roots go deep in search of moisture, and you state the most and best of your roots are 2 feet from the surface. If you come to the conclusion that this season's growth is an exceptional one, owing to dryness at the roots and the singular summer of last year and partly of this, then we would be satisfied with removing a part of the surface soil, and adding fresh, mulching and covering with litter in winter and spring, to encourage the roots to come nearer the surface. But for the hope that this treatment would be successful for the next season, we would at once set about a radical remedy, and carefully lift and replant the Vine roots, placing them about 6 inches from the surface, and afterwards keeping the surface mulched in summer, and protected with litter in winter. See "Doings of Last Week," page 327.

Gros Guillaume Grape (*A Subscriber*).—It is usually called Barbarossa. Any nurseryman could supply you. There never has been a yellow Cabbage Rose.

Raising Vines from Eyes without Glass (*Amateur*).—In the absence of glass your only plan will be to insert the eyes about 3 inches from a south wall, in good, rich, sandy soil, covering with an inch of fine soil. They should be inserted in March or April; or when the Vines are pruned the eyes may be put in, as they will remain dormant until the soil becomes warmed to a temperature of 50° by the sun's rays. For out-door culture cuttings are a more certain mode of propagation. Two joints are sufficient, covering the uppermost eye an inch or so with soil. They should be inserted at the foot of a south wall, or in a warm situation, and in sandy soil. You will find a receipt for Tomato jam at page 270 of the present volume.

Peach, Apricot, and Plum Stones (*Idem*).—They may be sown now, or kept in a cool place until next March if covered with 1 inch of soil. A sandy soil and a sheltered situation are most suitable.

Grizzly Frontignan in Cold Vinery (*C. R.*).—We do not think you will succeed with the Grizzly Frontignan Grape in an unheated house. We do not see why the Victoria Nectarine should not succeed against the back wall of an orchard house facing the south.

Peaches and Nectarines as Cordons (*Idem*).—We have no doubt that they could be so grown in ground vineries, whether of Rendle's or the older plan. Of course, double or triple cordons would depend on the width of the little house. We like everything new; but had we a wall at liberty, we would sooner place glass against it than be troubled with huge moveable glasses. Remember, however, we like to see these ground vineries; but cheap as they are, we think them dear enough.—R. F.

Asparagus Planting (*Asparagus*).—We recommend you to leave the plants as they are until next May; they will then be growing. Take all up and plant, watering well in dry weather. Two rows are sufficient for the beds 27 inches wide, and allow 15 inches between the rows and 12 inches from plant to plant. We presume you have alleys 2 feet wide between the beds. The width of the beds is immaterial if they do not exceed 5 feet. We prefer 4-feet beds, three rows in a bed, and the plants 1 foot apart in the rows.

Vines for a Cool Greenhouse (*Centurion*).—The six Vines most likely to suit you are—one Muscat of Alexandria, at the end where the flue comes in; one Muscat Hamburgh, one White Frontignan, one Black Frontignan, one Muscat St. Laurent, and one Chasselas Musqué. But even these will not ripen well unless, when in bloom and afterwards, you give less air than would suit the generality of greenhouse plants

Grafting Vines (*R. U.*).—The colour of the berries being different does not interfere with the grafting. Vines bearing black Grapes may be worked upon Vines bearing white Grapes, and *vice versâ*.

Vines in a Conservatory (*A Constant Reader*).—Vines are often grown in conservatories, and they are very handsome; besides, the Grapes would pay you better than anything else. You would derive more profit from them than from growing plants, and selling seeds, cuttings, and plants, which are not easily disposed of by private individuals. It requires a connection to do so profitably.

Seed Potatoes—Potato for Heavy Soil (*Idem*).—A seedsman would no doubt take your Potatoes if of a good sort, true, and a good sample; or you may dispose of them readily enough in any market. Milky White is a good second early, and Webb's Imperial a good variety for the general crop, both kidney-shaped; and for winter or general crop Paterson's Victoria.

Planting Fruit Trees (*Idem*).—The best time to plant fruit trees of all kinds is as soon in autumn as the leaves have fallen, or are partially fallen, or even from November to the middle of December during mild weather.

Gardenia florida not Flowering (*G. H.*).—We attribute the falling of the flower buds to the potting, and the check consequent on the removal from the hotbed. When swelling their buds, the plants are all the better of a slightly increased temperature, and even gentle bottom heat, continuing it until the wood is formed; then by a drier atmosphere, and plenty of air and light, insure the wood being well ripened. A temperature of from 45° to 50° is sufficient when the plants are not growing. They are spoiled by too much heat.

Sowing Solanum capsicastrum (*Idem*).—You will gain very little by sowing the seed now, though you may do so; and grow the seedlings in a stove during the winter, potting them off, when large enough, in small pots, shifting them into larger as required, hardening-off, and removing to a greenhouse in May.

Gloxinia Propagation (*Idem*).—The plants may be started in January, and when the leaves are large enough insert them, and when they are well rooted and good tubers have been formed, dry these off, and rest them for six weeks or two months; you may then start them, potting off after they have shoots about an inch high. They will make good plants by autumn; but it is better to let them rest longer. It is very likely some of the tubers will not push vigorously until late in autumn. The plants may be continued in heat, and they will grow without rest, but we do not approve of the practice. Eucodonia and Plectopoma may be treated like the Achimenes, to which they belong.

Roses, Cécile de Chabrillant, Mesdames Rivers and Vidot (*Q. Q.*).—"I am not surprised at questions about their culture, nor is 'Steevie,' my man. I read to him the query, and he said, 'they are three ticklish jokers.' If they are standards, take them up and clump them for the winter in a sheltered place, and place a little straw over the roots and round the stems in severe weather, and plant them out again during open weather in February. If they are ground plants the same may be practised. The fact is, they are more subject to fungoid diseases, and more beloved by aphides than many other sorts. Their lungs being injured by the above, or by violent winds destroying the foliage whilst sap is active, the health of the plant suffers, and the skins which should be a healthy green become of a sickly yellowish green, or speckled. When ground plants of Roses of any kind are thus totally affected, it is best to cut them down in spring, and not depend upon the wood of last year. I cut down, as an experiment, twelve sickly Chabrillants last spring, and it answered well. I have bought eighteen Madame Rivers in dormant bud, to see if pre-establishment will do good. The above three Roses, W. Griffiths, and Madame Guinnoiseau—a Rose that should not have been given up, are a quintet of beauty and perfect formation. Mr. Rivers alone retains Madame Guinnoiseau.—W. F. Radclyffe."

Clematis not Flowering (*Poplar*).—From your description of the growth, we should say your plant is of one of the freer-growing sorts, probably Clematis Vitalba, or Traveller's Joy. If so, from its very free growth it does not flower until it has attained a considerable age, and we would not interfere with it beyond thinning-out the shoots. Train them in at their full length, so as to cover every part of the wall. If you wish for flowers rather than growth, you may now dig a trench about 2 feet from the stem, and deep enough to reach all the roots. Cut off all towards the stem which go directly down, leaving those in the ball undisturbed. You may then fill in the trench with rather poor sandy soil, and this will so check growth as to cause the production of flowers, probably next year.

Names of Fruits (*S. J. H.*).—Your Apple is probably the Wyken Pippin. (*W. O.*).—*Pear:* Belle et Bonne, a second-rate dessert sort; *Apple:* Rymer. (*W. S.*).—Yours are a very difficult lot. We give some names which correspond somewhat in general character and appearance to your fruit. We are, however, by no means certain of them:—1, Winter Colman; 3, Blenheim Pippin; 4, Dredge's Beauty of Wilts; 5, London, or Five-crowned Pippin. We have many other parcels of fruits which we will notice next week. Absence from home has prevented our examining them.

Names of Plants (*G. R.*).—Ceanothus azureus.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending October 26th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 20	30.121	30.028	51	36	45	50	N.W.	.00	Fine and frosty; very fine; overcast at night.
Thurs. 21	30.230	30.124	56	25	50	49	N.	.00	Cloudy but fine; densely overcast; clear and fine.
Fri.... 22	30.399	30.326	50	42	47	48	N.	.00	Frosty fog; densely overcast; overcast, cold wind.
Sat.... 23	30.273	30.220	54	46	50	49	W.	.08	Densely overcast throughout; slight rain at night.
Sun... 24	30.107	30.108	57	26	51	49	N.	.00	Cloudy, very damp; fine but cloudy; clear at night.
Mon... 25	30.194	29.869	53	36	48	49	W.	.00	Densely overcast, foggy; very fine; cloudy.
Tues.. 26	29.879	29.804	50	23	50	49	N.W.	.00	Very fine and clear; cloudy, cold wind; fine and frosty.
Mean..	30.179	30.068	53.00	33.43	48.71	49 00	...	0.08	

POULTRY, BEE, AND PIGEON CHRONICLE.

THE PROPOSED LONDON POULTRY SHOW.

It is with great regret we have to announce the impossibility of holding an exhibition of poultry and Rabbits during December of this year. Everything was going on satisfactorily, the Committee had met with liberal support towards prizes and the guarantee fund, and it seemed as though the arrangement would end successfully. The show was to have been held at the Corinthian Bazaar, if the proprietor would accept the sum he first proposed to the Committee—viz, £100 for the week, and £7 10s. per day for gas. On going to make a final settlement, he stated a more favourable offer had been made to him; he therefore did not feel disposed to keep open the place till required for the show, unless an additional sum were given in the form of royalty. The Committee were even prepared to accept this further charge rather than have no show; but he stated he could not give an answer till Monday, 25th inst. Supposing the answer to be favourable, there would only be six weeks to settle everything, and make all arrangements. This was considered far too short a time to carry the show properly out. Every endeavour was made to find a suitable place, but without success. On Tuesday the Committee had an interview with Mr. Wilkinson at the Crystal Palace, and that gentleman kindly promised to bring the matter before the Directors at their meeting on Friday. Sums already paid towards the guarantee fund will be returned by Mr. Crook.

The Committee have met with great encouragement from exhibitors and others; should they not be able to hold an exhibition during the next six months, they will endeavour to do so during the time of the Cattle Show in 1870.

AUCTION AT THE BIRMINGHAM POULTRY EXHIBITION.

I QUITE indorse Mr. R. B. Wood's suggestion that the sale of poultry should be postponed until Monday afternoon or Tuesday morning, so that it would give those who reside at a distance a chance of purchasing. I know several clergymen and gentlemen who would annually go to the Birmingham Show if they could attend the sale without losing Sunday at home, and I feel sure it would be a great benefit to the funds to have the sale convenient to all.—SAMUEL MATTHEW, *Stourmarket*.

[We have several more communications on the subject, which we will publish next week. Surely the Committee can alter the day as is wished.—EDS.]

PIGEONS' EGGS UNFERTILE—WING DISEASE.

I HAVE about eighty pairs of breeding Pigeons, and in August nearly every egg laid was bad. I was very much surprised at this, as previously I rarely had a bad egg, and I am unable to account for the circumstance. I thought the cause must be the weather or the birds going into moult, for since that time the eggs have been good, though in a few instances the second pair of eggs have also been bad.

I have had several birds taken with the wing disease. I always reckon in moulting time to have a few Pigeons affected with this disease, and I can generally notice when it is about to attack a Pigeon. The course I pursue is to catch the bird, and dress it under each wing with a small quantity of unction or sheep ointment; I then pluck a few feathers from the tail and other parts, so as to enable the bird to go on moulting. I am certain that the cause of the wing disease is the bird not being able to throw out its feathers, from weakness or some other cause. With but one exception the birds I have treated as above have regained the use of their wings. The only one which has not done so is a Yellow Beard cock, though by the treatment named I expect to restore it to health. It may be known when a Pigeon is about to be attacked with the wing disease, for if the bird is closely watched it will be seen that its wings tremble very much when it is about to fly. If the birds are caught and treated as described, they will, with few exceptions, recover the use of the wing affected.—W. WOODHOUSE.

[We commend our correspondent's letter to his brother Pigeon-fanciers. Bad eggs may arise from the birds not being able to procure enough calcareous matter, or from inflammation of the egg-passage—either, therefore, from accidentally not finding old mortar, &c., or from illness. We should be inclined to think it a temporary illness. In regard to wing disease, we think Mr. Woodhouse's remedy exceedingly sensible. The sheep ointment is mercurial; dressing the wing with tincture of iodine, which absorbs the liquid deposit, is also a good plan. Another correspondent, "E. S. B.," states that he followed the advice in the Journal, given, we apprehend, by "A FOREIGNER" at page 83, vol. xv.—viz, plucking the wing feathers, but as yet there is no cure made. We recommend the application of the iodine, and change of food, with a little aperient medicine; for, except in cases of accident, the outward trouble arises from internal derangement.—EDS.]

NORTH ORMESBY ORNITHOLOGICAL SHOW.

THE third annual Exhibition of the above was held in the schoolroom, North Ormesby, on Saturday, the 23rd inst., and was a decided success, both with regard to number of entries and quality of specimens shown, as well as visitors. The entries were fully one-fourth in excess of last year, sufficiently attesting the increasing interest attaching to the breeding and exhibiting of the chief of our feathered household pets, the Canary; and the growing confidence exhibitors from a distance feel in entrusting their birds to the care of the Committee of a well-managed Show.

In Belgians the entry was small, but the quality in both Yellow and Buff very fair, the first and second prize in the Yellows being won by Mr. R. Robinson, Middle borough, and Mr. W. Bulmer, Stockton; and in the Buffs by Mr. J. N. Harrison, Derby, and Mr. R. Robinson. The Norwich were really superb, and the highest-coloured birds took the prizes. Messrs. Irons & Gayton, Northampton, first; and Messrs. Moore & Wynn, Northampton, second in the Clear Jonques, the south-country breeders bringing out their birds in perfect condition. Messrs. Irons & Gayton were first again in Clear Buffs, with a wonderful bird; and Messrs. Pennock and Blackston (not W. A. B.) second. Mr. E. Mills, Sunderland, was first in Class F, "Evenly-marked Jonque Norwich," winning easily, "hands down," from Messrs. Moore & Wynn, second. Class F (Buff Norwich, evenly marked., Messrs. Moore & Wynne, first: Dr. Ellerton, Middlesborough, second. should, we think, have both been awarded to the former. Class G (Clear-crested Canary), P. Rawnsly, Bradford, first; G. Shiel, second. Class H (Dark or Grey-crested Canary), J. Stainsby, Sunderland, first; G. Shiel, second. The Golden Lizards were not particularly good. R. Hawman, Middlesborough, first; R. Rawnsly, second: but in the Silver-spangled Lizards the first-prize bird shown by Mr. James Taylor, Middlesborough, was an exceptionally fine bird; and Mr. S. McCure, Stockton, was second with a fair specimen. The Cinnamons were good classes, Messrs. Irons & Gayton being first, and R. Hawman second in Jonques, the former being first also in Buffs: Messrs. Moore & Wynn, second. Of the Yorkshire classes we can say but little, except that they were very much like inferior Norwich. The Clear Green was a good class; and we would remind friends in the south, that by Clear Green we mean a bright pea-green long bird much bred in this district, and not the bronze-green of the Norwich type. Class S (Any other variety), was not remarkable either for numbers or variety.

But what shall we say about the Goldfinch Mules? Mr. Shiel carried all before him with two birds that were not to be approached in point of excellence or condition, and had there been a third prize it must have fallen to him as well. He is one of the very few exhibitors who show birds of their own breeding only, and he must have been singularly fortunate this season, for we hear from those in the secrets of the stable, that he has others under cover destined to lower the colours of birds of known celebrity. In condition his birds cannot be excelled, and we are reminded of a letter of Mr. Ashton's, which appeared in the columns of "our Journal" some time ago on this subject. He and Mr. Shiel must have been shaking hands together!

> "To teach his grandson draughts, then,
> His leisure he'd employ,
> Until at last the old man
> Was beaten by the boy!"

The schedule was conspicuous by the absence of a class for Jonque Goldfinch Mules, and we would remind the Committee that such could not be shown in class V (Any other variety of Canary Mule). We mention this, because we have reason to believe such was the impression. A Jonque Goldfinch Mule is precisely the same variety as a Buff one, but a different class of that variety. To constitute a different variety of Canary Mule, there must be a different bird mated with it—*e.g.*, the Linnet, Siskin, Greenfinch, &c. The awards in this class fell to two very fair Linnet Mules. The winning birds in the Dark Mule classes were good specimens, and the second will beat the first when further advanced in condition. Goldfinches, Linnets, and British birds were generally well represented.

RABBITS AND THEIR JUDGES.

HAVING been from home I have only just seen the Journal, or should have sent a short and last reply to "ONE OF MANY WITNESSES," respecting the Rabbits at Whitby.

In the first place I may say with regard to the number of Rabbits, I had no wish or intention to evade the truth. As I

read the letter I took it to mean pens, and on referring to the catalogue I found, as I stated, only fourteen pens entered and three empty. In the second place, your correspondent states that I made a remark that he had to read three times over before he could believe his eyes. It was, "Had there been a large entry, of course we should have measured them." Now, I think, anyone must admit it is much easier to decide which of two Rabbits is the better when they are side by side, than to choose the best two out of twenty or more. With regard to testing the merits of the two Rabbits, let them be shown at Leeds and York; probably they will have different and, I hope, competent judges. The second-prize Rabbit at Whitby taking first at Long Sutton, is no proof that it was the best. Your correspondent mentions Wakefield, where he says they were measured and received their full share of attention; but there, I may say, all were not satisfied, for as I passed the Rabbit pens I heard a gentleman say to his friend, "See, they have reversed the Bingley decision given only a week ago." At Bingley the prizes were awarded by Mr. Teebay, who is a well-known judge and has had great experience. Lastly, as regards the statement that we judged the Rabbits in less than two minutes, I supposed it too ridiculous for anyone to believe, but as I did not look at my watch, I cannot say what the exact time was, but certainly much more than that.—JAMES DIXON.

[Here this controversy had better close. The object of our correspondent has been attained—namely, securing attention to the appointment of efficient judges for Rabbits.—EDS.]

CANARY-LOVE REVIVED.

OLD loves are very dangerous things; you may think them obliterated, that they have died out, been stamped out—you may even come to think of them as of things that had no real existence, when, lo! they revive, they re-exist, they are again as strong as ever, if not stronger. Thus, for example, a young couple perpetrated that soft thing—a mutual attachment; but stern parents on both sides forbad it sternly, a cross-grained rich old bachelor uncle buttoned up his breeches' pockets ominously (this was considered the worst sign of all), and the youth was never to see the maiden more. He was sent off to India, where he killed tigers, gained much Asiatic knowledge, and returned in twenty years' time with nearly half a liver, and as to love, so it was supposed by himself, not the least bit of a heart, when lo! he meets the lady the day he landed, *entre nous, she* managed that, and that day month they were—married. Oh! good readers, beware of old loves, they are so very apt to become young again.

I had an old love for Canaries; it existed in its strength more years ago than I care to remember, but of one thing I am sure, that the last twenty I considered myself, as to cage birds in general and Canaries in particular, "fancy free." But it so happened that I saw a paper in this Journal about the little creatures, and in a very unguarded moment, little thinking what would be the result, I read it, and liked it. At its end was to me an unknown name—"W. A. BLAKSTON." Now, I did not know Mr. Blakston in the least, never had seen him, had no interest in his interests, and was not godfather to his "Jacky;" but I will say, and quite disinterestedly, that I was so caught by the style of writing of that Canary paper that I have read every line Mr. Blakston has since written. Such is the power of a happy, pleasant style.

But more remains to be said. I have spent this year a small fortune in cages; I have even got to the length of having a Canary room, and all owing to Mr. Blakston. I think he is the real "Wizard of the North." I do not say that he ought exactly to be burnt in a Sunderland furnace; but there—he has made me during last summer chop hard-boiled eggs daily, though if there be a smell I specially detest, it is that of a hard-boiled egg; and though I am fond of a neat garden, I have come to regard chickweed and groundsel affectionately, even if in the garden. I, who for twenty good years never looked upon a Canary other than as a little yellow bird that yelped like a lonely chicken, and even hurried past Canary shops, now peep into every cage I see, look into windows if there is a cage inside, until I am afraid the police will take me for an intending burglar, got up clerically, or as Bobby might say, "doing the parson dodge." I now go into every Canary shop I see; I go and see ladies' pets, listen to their bird's song, and criticise it; I look wise at Crested Norwich, give oracular decisions about eye marks, wing marks, and tail marks; I set up my shoulders at Belgians for sympathy's sake, not horror now; I lie and wonder and suppose how very beautiful Mr. Ashton's Lizards must be; I think of going to Canary shows, leaving word with the churchwarden, "left on urgent private affairs."

And all this is owing to the Sunderland wizard. I, who positively regarded Canary people as "a little touched, you know, but perfectly harmless," now am in the fancy; Canary love has revived, and is burning so hotly that I beg space to have my say on the subject.

First, even every scoffer must own, unless he is blind and deaf, that a love of Canaries is a very general love. The other day when in London, I could but notice how many Canaries there are in every street, especially the most private streets. In better streets I saw white-banded, neatly-turned-wristed young ladies, in summer morning dresses, most becoming of dresses, hanging their pet Canaries in the morning sunshine, over the Geraniums in the window—in back streets still there were Canaries—in shops, even, Canaries. Why, I believe, if in every town in all England, all the Canaries were on a given day let out, there would be a very observable addition to our ornithology, and that in some towns the air would be full of little yellow wings.

The love of cage birds is almost universal, and, then, happily it can be followed in all places. If you pass through a London mews you will see that Larks and Thrushes are the favourites. Why? Because coachmen and their wives, and grooms (not yet bridegrooms), are from the country, and the note of a Lark or Thrush brings all the country before their eyes. As Wordsworth says when he sung the reverie of poor "Countrified Susan" living in London,

> "At the corner of Wood Street, when daylight appears,
> Hangs a Thrush that sings loud, it has sung for three years,
> Poor Susan has passed by the spot, and has heard
> In the silence of morning the song of the bird.
> 'Tis a note of enchantment, what ails her? She sees
> A mountain ascending, a vision of trees,
> Bright volume of vapour through Lothbury glide,
> And a river flows on through the vale of Cheapside."

So, doubtless, is the case in countless instances, and a Lark or a Thrush from the country brings to country-born and country-loving hearts, in populous cities pent, much of delight. But there is in my mind a thought of cruelty which spoils my happiness, when I look at a Lark or Thrush in a cage; whereas, my little friend the Canary is not "to the manor born," but "to the cage born." For three hundred years he has been hatched in a cage; it is his cradle, his home, his castle, and he, a poor feeble flier, is happiest there.

Studying, along with Mr. Blakston's commentaries (these not dull ones), the late Mr. Brent's book, I found I had good and accurate guides. Poor Brent is gone, and I like to be able to peruse the departed. Now, it is remarkable how accurately he wrote. I refer especially to his books on Pigeons and cage birds. There are no such in existence; they are original and wonderfully correct, unlike so many handbooks which are copied one from another and abound in blunders.

To those inclined to keep Canaries, or who only keep common birds, I would beg them to remember the great difference between the common coarse-bred Canary and the Fancy Norwich, the superiority of the latter to the former is very great. The common Canary, as you may see it by the dozen in low-class bird shops, is only a vulgar little fellow; shape and plumage are both wonderfully inferior to the Norwich Jonque or Mealy, who looks a high-bred little gentleman with an unsoiled coat. He costs no more to feed than a common bird; then why should he not put the vulgarian out of existence?

There is one thing for which I especially like the Canary—that is, his happy disposition. He seems an example for man; he is content, happy, and almost always merry, grateful for a little notice, as the glance of his eye (how black and bright that eye is, especially in the Clear Yellows), the nod of his shapely little head, and the jerk of his tail, plainly indicate. Not that all are alike in disposition. I have one who was intended by nature to be an old bachelor; he is shy and nervous with other birds, and prefers being hung up a little high rather than have his cage on the table. Then, I have a very vain bird; he must be noticed or he is unhappy. I take care never to pass his cage without a word and a nod. He reminds me of an oversensitive friend, who, if you pass him hurriedly on business, or suppose you have a toothache, or do not always invite him to your parties, he takes a tiff and begs to know how he has offended you. Then, the hen Canaries differ. I have a dear little hedge-sparrow-like bird (a Hedge-Sparrow to my mind always looks kind); I may shake her on her nest and she

shows no ill-temper, she is so thoroughly lame. Another lady I possess who pecks my finger under such circumstances, and sharply too.

Enjoying to the full my out-door pets, poultry and Pigeons, yet I find full often that there are days in our changeful climate when no out-door pets can be enjoyed, or even enjoy themselves, when the cock foregoes his wonted strut, and the poor hens stand miserable, even under a dry shed; days when Pigeons prefer nesting for very warmth's sake, or shelter's sake, to facing the cold winds, or the driving wet. On such days, if one is feeble in health, too, I turn to my Canaries, to my in-door pets, who care not for rude Boreas, or drenching Pluvius. Then while I write they are near me, and I can watch their habits without loss of time. Indeed, Canaries are fit pets for tailors, shoemakers, and literary men, all followers of sedentary trades. While my birds are nesting, building, sitting, and rearing their young, I love to watch them. So I find do my children, who love to gather green food in their walks for the birds at home. What basketsfull of chickweed and groundsel have they brought home this year. Then there was the grand collection of plantain spikes to be made for winter use. How they were sought and sorted; how a small forest of them was discovered in one corner of the park, and how the *Times* newspaper was made into a bag for the reception of the plantains, and how the youngest pleaded in my absence for the privilege of laying each day a spike on each cage. To give their children happiness ought to be the endeavour of all parents, and the father that keeps and breeds Canaries adds much to his children's pleasure.

Further, there is a rare beauty in canary colour; it is like no other colour, so we call it "canary." Its beauty in the birds is best seen just before a brood flies. You take the cage down, and look into the nest where the birds sit, and clean, and clear, and bright is their colour. So pure and new do the little fellows look, they are feathered, but too weak as yet to venture out of their nest. Few young birds are pretty, I think no English birds are while in the nest, but the Canary colour effects a triumph, and young nestling Canaries are very pretty. When they leave the nest by day I notice they, like other babies, must have their day sleep, sometimes on a perch, at others in the nest. But what a change do a few days make. At the month's end I take them from the old ones, and give for three days soft meat, egg, hempseed, and bread, as well as seed, but before the three days are well over, the manly little chaps despise the baby puddings, the nursery food, and there they are eating away at the seed drawer. A little older and I allow them a bath. Just like bathing school boys they do not know when to have done, when to come out of the water. Your old Canary takes his bath, has a good clean, and has finished, but the juveniles go in and in and in again. My plan in my room as to the bath, is this—I place a shallow dish, the bottom part of one of those receptacles for eggs one buys at a crockery shop, consisting of two parts, the upper an earthen hen of doubtful breed, represented sitting, and a nest basket under her. This earthen basket—a far better thing than the deep bought baths—I put on a wooden chair in the centre of my room, if possible in the sun. I open the cages and down the birds come, and verily it is a pretty sight to see five at once bathing, others by the side, or a scrimmage as to who shall get in first, while others stand dripping wet on the chair back; while upon all the sunlight is falling, lighting up the pretty canary colour. Many a half hour's pleasure do I have sitting in my bird room, half hour's sittings after meals which aid digestion.

I find that in the moulting the birds not unfrequently have a kind of asthma or huskiness, but that I can easily stop by adopting the following plan. I smear a small pebble the size of a pea with Stockholm tar, and drop the pebble into the bird's drinking glass. This I find is better than putting a few drops of the tar in the water. I renew this daily, but usually two days effect a cure. I do not approve of much green food, except in warm weather and when the birds have young ones. I do approve, on the other hand, of bruised hempseed with the chopped egg, for I have not lost one bird this year, and I know young things, children included, need nourishing food. In saying this I am telling the decided opinion of a very successful lady fancier in my own neighbourhood, who has bred Belgians for years. My birds are healthy, but then I keep them scrupulously clean, cleaning them every day. If a bird is shown to me ill I smell the drinking fountain, and—oh, faugh! It is the same with Pigeons; the same cause, the cause of fever in mankind—dirt in some form or other. In going among humble fanciers all this summer, and hearing their mournful stories of "No luck this year, sir," I asked, "Did you scald the soft-meat pans every morning?" "Well, sir, I can't say I did." "Did you give clean water daily?" "Well, no." This is the same cause in Pigeons, though the higher bred the more delicate—dirt.

I like much my Canary pets. At present they are all Norwich, Clear, or Marked, or Crested. The last when angry look like Scotch shepherds in a gale of wind with their flat bonnets on their heads. I admire the ceaseless activity and curiosity of Canaries, how they will peck at everything new, be it a bit of string or even the head of a nail—so curious, so prying, so active in body and brain are my little feathered friends. Canaries, like all cage birds, are great sources of comfort and amusement to invalids. Doubtless my readers know what a small world confirmed invalids live in. Their room is all, and if in it they have flowers and pets they get to love them very greatly. I know how a delicate child, forbidden to join in out-door exercise save in fine weather, will delight in mixing and getting anything, bath, water, &c., for the birds, and will sit and watch them by the hour. I do not wonder how general is the love of Canaries, how they are found in front streets and back streets, how they are to be seen in the wide light halls of pretty modern villas, their cages among pots of Maiden-hair Ferns and bright Geraniums. Then under how great difficulties they are bred, and bred by hundreds (Ah! Englishmen, and Englishwomen, bless them! like to triumph over difficulties), as witness in Sunderland's smoky atmosphere—Sunderland which has its large and beautiful show in spite, nay, perhaps partly because, of the difficulties to be surmounted.

And now to bring this rambling Canary paper to a close, I end it with a "Thank you, Mr. Blakston, for reviving my Canary love; for making my little children thoughtful of little birds' wants, and watchful of their ways; for helping me to educate them in kindness—yes, thank, thank you, Mr. Blakston; and like Oliver Twist, I ask for more—for papers on each variety, for points to judge them by," &c.—WILTSHIRE RECTOR.

DEAD BEES IN CELLS—QUEENS OF SECOND SWARM BREEDING.

I HAVE just taken up a second swarm; the hive is about half filled with combs, and there is very little honey but a good deal of brood. The bees are quite perfect; some of them are ready to creep out of the combs. I want to keep the hive to hive a new swarm in next year. Will the new swarm clean the dead bees out, or will the latter do any harm? It is a common hive. If a second swarm of Ligurian bees were sent away on the day it issued, would there be a sufficient number of drones with it to insure the queen finding a mate, the parent stock having a good number of drones?—H. R.

[The new swarm will remove the dead brood, and we believe sustain no injury from its presence. The hive should, however, be carefully put away in a dry place until wanted for use. If the second swarm from a stock of Italians can be placed at a sufficient distance from any common bees, it is most probable that sufficient drones would accompany it to insure the purity of the young queen's progeny.]

SPURIOUS HONEY, AND FRAUDULENT BEE-KEEPERS.

IT is with regret that I feel bound to reply to the vague and contradictory statements made by Mr. A. Pettigrew, in your issue of the 11th instant. I leave the major part of his article to the Ayrshire bee-keepers, who, I know, are very well able to defend themselves, but I will notice the salient points, giving some explanations as I go along; and may I add that Mr. Pettigrew must himself advance considerably ere he assumes to give information to others on the subject of bees? The produce of those who work on the Stewarton system is greatly superior to his currant-bun-like combs, and much has been said against the Stewarton hive by bee-keepers who are not themselves able to take off boxes of fine honeycomb.

Mr. Pettigrew says—"Some time ago a correspondent asserted in your columns that the Stewarton hive produced the finest honey in the world, an assertion rather too extravagant for your intelligent readers." Now, it seems to me that there is something rather obscure in the last two words of the sentence. As a proof of the repute of the Stewarton hive, I may state that it has come under my direct observation (not to speak *of*, perhaps, six times as many that I know nothing *of*), that there

have been exported during the last three or four years no less than one thousand sets of these boxes, and very many of them have been sent to parties who had already possessed them, and who are readers of "our Journal." Are they then not "intelligent" because they use the hive that Mr. Pettigrew condemns? It also somewhat astonishes me that he should assert that "neither the shape nor material of a hive can improve the quality of the honey." Did he not himself give instructions in this Journal as to the best shape and material for a hive? Doubtless, the shape and material have very much to do with the quality and quantity of honey collected, but as it belongs only to those advanced in the science, Mr. Pettigrew has no use for this information, and I will not trouble him with it. He says again—"I am not . . . . going to say one word for or against the Stewarton hive." He would have done as well to have "let sleeping dogs lie," since, if I may believe my own eyes, he has already said a great deal too much.

As respects feeding bees with sugar for the production of supers, where such a thing exists by all means put it down; but it is in this, as in many other things, there are but few rogues in comparison with the number of honest men, and I am almost sure he is mistaken with regard to the three boxes in question. At any rate, it would have been better if he had expressed himself in a different manner. There is, indeed, as will be seen, a singular coincidence between the boxes he mentions and three which I myself saw. I happened to be in Glasgow some time since, and in a shop there examined a quantity of honeycomb, amongst which I was shown three boxes that were to be sent to England. There was no more sugar in these boxes than there is in my pen, but there was certainly very fine honey, and if these three boxes, and the three spoken of by Mr. Pettigrew, are the same, he is beyond doubt mistaken, and ought to apologise, or to bring forward proof that their contents really were sugar, which I am almost certain they were not. It is very questionable whether feeding bees is profitable, I am sure it is not. Sugar at "2½*d.* per lb." I will pass over, because such a weak statement can have little effect on any one who reads it. He says that Glasgow merchants and judges of honey ought to taste it before purchasing. This practice bee-keepers would never submit to, as it spoils the whole appearance of a fine box. Besides, a good judge of honey knows honey and comb without tasting. With boxes raised under Mr. Pettigrew's plan, it matters not whether they be broken into or not. Who would have thought that one who reads "our Journal," would have laid any stress on such words as "he told a friend who told me!" I think I see the cunning leer the Ayrshire man put on when he told the ignorant bodies that it was sugar and water.

In a year like this it is impracticable, unprofitable, and impossible to raise supers with sugar—impracticable because the make of the hives does not admit of feeding, unprofitable because if food is given in fine weather the bees cease collecting from the fields, impossible because they will not take artificial food when they can get honey of their own gathering. I give one case in point. I had a hive whose combs met with an accident about a week after swarming; I collected the honey in a basin and gave it to another hive, but it refused it, and not one would accept it until the honey-gathering ceased.

With regard to novices passing their opinion on honey, almost all whom I meet belonging to Lanarkshire, if I show them a first-class box of honey always maintain it is sugar; again, I have met them (men from the neighbourhood of Carluke), more than once opposite the vendors of honeycomb, and whenever a spurious article was present they maintained it was honey; the rest they said was sugar. I had a visit last year from some men of that place offering for sale honey and sugar nicely compounded together. I showed them a box of honeycomb pronounced the finest they had seen by those who had judged most of the honey in Scotland. On seeing it, one exclaimed, "What is it?" while the other maintained that it was sugar! Now I can assure the readers of this Journal that the hive from which this box was taken has stood for three seasons without ever having sugar, and that during that time it has given six supers of fine comb, each 25 lbs., besides other inferior comb, such as Mr. Pettigrew boasts so much of. I say, therefore, to the readers of "our Journal," Do not believe such statements as that the Ayrshire shallow boxes are filled with sugar and water. Deal only with respectable people, of whom there are many, and you will not be disappointed.

As regards the Glasgow merchants being judges of honey, most of them know very little about it, and how can they when but few of them even know bees when they see them? A practical man is the only competent judge. I will merely instance the judgment of a Glasgow honey merchant. At the Hamilton Horticultural Society's Show, in September last, there were entered for competition seven boxes, and out of the seven, only two in my opinion deserved a prize; but, strange to say, the best box of nearly 30 lbs. of perfectly straight worker comb, every way well finished and of a fine colour, was awarded only the third prize, whilst the second best was passed over entirely, and the first prize was awarded to a box of drone-comb, not filled, of about 6 lbs. in weight, and the honey it contained of a third-class quality, having been gathered from the wild tansy—such is commonly a little bitter and tastes strongly of pollen. The second prize was awarded to a much inferior box of about the same weight, but it had only two pieces of coarse drone comb which constituted the box, the honey being of the same character as the first and very watery.

So much for the judgment of Glasgow honey merchants, which is, in fact, no better than that of the majority of the Lanarkshire bee-keepers, who, as I said before, whenever they see a fine box maintain that it is sugar; but to give your readers a better idea of how the honey was judged, I will relate the conversation that took place between the Judge and the owner of what ought to have been the first-prize box. The Judge, "Is this your whereabouts? Have you something in the show?" "O yes, I have, I have a box of honey. You would likely see it." "Yes," was the rejoinder, "Was it the large box?" "Yes," replied the owner. "Where have you placed it?" "I think," answered the Judge, "it is third." "I think you must have made a very great mistake, as there is no comparison between the boxes," continued the owner. "Oh," replied the Judge, "it was in the dark, I could not see it." "And what were you brought here for?" exclaimed the owner. "You a judge of honey!" When the Judge again replied, "I can sell wee boxes best; besides, I did not know it was yours." "Nor had you any right to know whose they were," said the owner. "And had you examined the large box you would have seen that without cutting a single comb you could have made from it seven boxes superior to those you placed before it." Your readers can guess the rest.

And, now, let me ask, if the Stewarton boxes contain sugar and water, how comes it that there are so many unfinished ones in the market? Were they filled with sugar the owners would surely look a little more after their own interests, and not send out any empty comb, as it is well known that it takes much more to build comb than to finish it.—A Lanarkshire Bee-keeper.

Mr. Pettigrew makes some observations on the Ayrshire bee-keepers that are quite amusing. Fancy a coterie met in some quiet corner, with snuff-box circulating, and may be a glass of toddy to keep up the fun, calculating to a nicety how much sugar at 4½*d.* a-pound is required to produce 1 lb. of honey. That settled, the next thing is the large profit they will have after the syrup expedition over the border. Some short time ago I tried to sell in Manchester pure honey, collected in that locality. After trying all sorts of places, and finding it quite unsaleable, I let a druggist have it at 6*d.* per pound, which he never paid. Honey from the north—how produced I cannot tell—is saleable. That produced about Manchester can scarcely be given away.—Over the Border.

AN ACCOUNT OF A STOCK OF BEES.

During the autumn of last year I bought a stock of black bees in a common straw hive. After having put them on a stand in my bee garden, I attempted to capture the black queen by fumigating the bees. The first lot of bees which fell on the floorboard were carefully searched through for the black queen, but without success. I then reserved the bees I had taken from the stock, and again fumigated the stock, which appeared to take all, or nearly all, the bees from the hive. I was quite satisfied I had sufficient bees to form a colony, to which I at once added a Ligurian queen.

Having sufficient combs already fitted into the frames of one of Pettitt's frame hives, I placed the old stock in another part of my garden to take its chance. I then put the bees which I had taken from the stock, with a Ligurian queen at their head, upon the stand formerly occupied by the old straw hive, and so made a very good stock. You may judge of my surprise in the spring of this year when I found the stock from which I had drained nearly all the bees as strong and as good as any in

my apiary, which then consisted of about twenty stocks of Ligurians.

In April last I transferred the stock from the old straw skep into Pettitt's "hive of hives," taking care to cut out all drone brood, and substitute worker comb. On May 25th I took away the black queen, which I introduced to one of my black stocks, which happened to be queenless, and introduced a Ligurian queen in her stead. On May 26th I examined and found the Ligurian queen quite at home amongst her new subjects, and was much surprised to find all the young bees in the hive were actually hybrids, each with one distinct yellow ring. On the 18th of June I removed the crown-board, and saw a number of young Italians, but none on the wing until the 23rd of June.

This stock continued to flourish until the 6th of July, when I took away five of the combs with the queen, and made an artificial swarm. The old stock produced a new queen July 21st, which has proved a prolific one, and at the present time both stocks are very strong and well populated. The old black queen continued to produce hybrids until some time in August, when she disappeared, for the hive was found to be without a queen, and not having the power to raise another, the bees gradually dwindled till none was left.—SUDBURY.

THE EXPERIENCE OF A "BEGINNER" WITH THE WOODBURY FRAME HIVE.

THIRTEEN months ago a friend of mine happened to tell me that he was going to destroy two hives of bees for the sake of their honey. I at once told him that he ought not to do so, for I had seen a plan described in THE JOURNAL OF HORTICULTURE, by means of which the honey could be taken without destroying the bees, and I then explained the process to him as well as I could. "Well," said he, "as you seem to know all about it, I will make you a present of the bees." And this was how I commenced bee-keeping. Rather a strange beginning for one who had never seen a stock driven or a swarm hived—in fact, had never before touched either a bee or a bee hive, and yet had undertaken to drive two stocks and hive them in a—well, no less than a Woodbury bar-and-frame straw hive, as I was determined, when once I made a start, to go in for the best, and become a practical bee-keeper; for, as my father's gardener says (he is a Cheshire man), "What mon has done mon can do."

I read Mr. Woodbury's very explicit articles on driving, &c., until I could almost say them word for word. I followed them out to the letter, and was perfectly successful, and most amusing was it to me to see the bees deserting their stores and running up into the empty hive. I brought them home, along with sufficient "deaf" comb to fill six frames, in which I fastened it according to Mr. Woodbury's instructions, hived the bees, and put them on their stand. Three days afterwards I examined the hive, and as the bees had cemented the combs I removed their fastenings. I fed the bees until they weighed 26 lbs. nett, and with a feeder that some of your correspondents seem to have a great deal of trouble with—viz., a pickle bottle; and for the information of your readers, I may state that their entire cost was but 10s., as they had 20 lbs. of loaf sugar, at 6d. per lb., made into 32½ lbs. of syrup. The stock wintered well, scarcely a bee dying, and by February 5th they were carrying pollen.

As spring advanced my new pets throve marvellously, and I was thinking of taking an artificial swarm, when I found that my "new-fangled hive" and driven stock were watched rather jealously, to see what results I obtained; so this determined me to put on a super, and show the unbelievers the honey-producing properties of the "patent hive," as they termed it. This I did on the 20th of May, and it was quite filled by the 10th of June, when I raised it and put another one (minus the bars) between it and the stock hive, and the bees soon enlarged their combs so as to fill this super also, and when I took it off on the 20th of July the united supers weighed 48 lbs. nett. I showed it to all the cottage bee-keepers about here, and it was very amusing to hear their remarks upon it. "It's a grand hive is that, mister," says one; "What a pratty seet" (pretty sight), says another, &c. I have stated every particular about my hive, with the exception that, not to be behindhand, I have ordered a Ligurian queen to put at the head of it.

Now, my object in writing is to thank Mr. Woodbury for giving us new beginners every information, and also for giving us a hive both simple and easily managed. I, who knew nothing at all about bees, and have had no one to instruct or help me, except what I have gleaned from your Journal, have managed it without a single mishap, and I would say to all beginning bee-keeping, Procure a Woodbury frame hive, you will be delighted with it; the difficulties about managing it are all visionary, and with a bee dress and gloves the most nervous may do anything.—A BEGINNER.

[We shall be glad to be informed from time to time of your further proceedings.—EDS. J. of H.]

OUR LETTER BOX.

FOWLS EATING THEIR EGGS (*Constant Subscriber*).—The best plan we know to cure fowls of eating their eggs, is to place composition eggs about. They must be of hard material, so that the beak can make no impression on them. They get tired of pecking at them, and give it up. As we have seldom met with it in a farmyard where fowls have their liberty, we are induced to ask whether it is general, or confined to a few birds? If, as we should think, the latter is the case, we advise you to watch them closely, and when the culprits have laid, let a boy at once rush at and frighten them off the nest. This is a certain cure. If the offenders are only two or three in number, they may be detected by the yolk hanging about their beaks, and should be killed at once, as they learn the trick one of the other.

CALL DUCKS (*Lost J. H. N.*).—The White Call Duck should be perfectly white, with orange bill and feet. The Brown should be in colour the fac-simile of Wild Ducks. There is no fixed weight, but they cannot be too small if they are symmetrical. The body should be round, and the head round and very small, with a short bill.

DORKINGS NOT LAYING (*S. P.*).—None of your adult Dorkings will lay now; it is against nature. The pullets have probably laid their eggs, and there are none of a proper age to succeed them. If there are many about nine months old, some of them must be laying if properly fed. What is sandan-mash? What is the kitchen refuse? Is it stock-meat and such like, or is it merely wash with refuse vegetables in it? The latter is not good. Feed on barley or oatmeal night and morning, and give some whole corn, barley, or maize, at midday. A good division would be—barley four times, maize three times per week. Long experience has convinced us that is the proper feeding. Constant complaints prove to us that all the new discoveries produce disappointment, and are but apologies for proper feeding. If you will feed as we have described, we have no doubt your birds will lay.

FOOD FOR FOWLS (*D. F.*).—We do not know the meal of which you speak, and have little faith in cheap things. At the price you mention we think there must be a great mixture, and some of the ingredients must be very cheap. We believe you can buy it at 2s. per bushel, because it is worth no more. Our experience is that the best food is the cheapest, and that two equal sums being judiciously laid out in food, one on the cheapest, the other on the most expensive, the latter, though much less in bulk, would afford the larger supply of nutriment. The good food of good barley has much to do with keeping your birds in condition. As a fair test withhold it for a few days, and see if they fall off; if they do, it will be a proof your meal is not of itself sufficient.

WEIGHTS OF DUCKS, GEESE, AND TURKEYS (*Amateur*).—We have known a Duck to weigh 9½ lbs., a Goose 29 lbs., a young Turkey 27 lbs., an old one 30 lbs.

DORKING WEAK-LEGGED (*H. F. H.*).—Any young cock so weak upon his legs as to squat on his knuckles, should be kept in a dry place; but rain could not have caused the weakness you mention. If it is weakness that caused him to be knock-kneed and ungainly in his figure, we have no hope of him, nor do we think him worth saving. If it be the weakness that makes him sit down, it is merely a temporary ailment, of which he will recover. Feed him on ground oats mixed with milk, on cooked meat chopped fine, on bread steeped in strong beer; and if you think him worth it, on boiled egg chopped.

COCK CANARY UNWELL (*J. T.*).—Give this bird which snaps his bill all day, and is songless, a drop of castor oil, and hang the cage away from draughts.

WINE PRESS (*G. H.*).—One is described and figured in No. 435 of this Journal.

SALT-CAT (*A. L.*).—The salt-cat is composed of about equal quantities of a clean, unctuous loam, such as brickmakers use; a coarse gritty sand, or fine gravel, in which the grains are about the size of pins' heads, and old mortar; to this is added a small quantity of bay salt. Some persons, to make it more attractive, add aromatic seeds, such as cummin, anise, coriander, and caraway. The whole should be mixed with water to the consistency of mortar, and placed in a crock, the sides of which are perforated with many holes, large enough to admit the Pigeons' heads, and covered with a lid to keep off the weather.

HONEY FROM A FOUL-BROODED HIVE (*Inquirer*).—It is stated that the virus of honey which is tainted with the foul brood may be completely eradicated by boiling; but we have ourselves had no experience on the point; 17 lbs. of honey are not too much, as bees do not store all that is given to them. Breeding is pretty certain to recommence with the excitement of feeding; and the re-appearance of foul brood, supposing the colony to be really infected with the disease, is the too probable result.

POULTRY MARKET.—OCTOBER 27.

OUR market is more cheerful, and if the weather remain cool we may look for good autumn prices.

	s. d		s. d
Large Fowls	4 0	to	4 6
Smaller do.	3 0		3 6
Chickens	1 9		2 0
Geese	6 0		7 0
Ducks	2 0		2 3
Pheasants	3 0		3 6
Partridges	1 6	to	1 9
Grouse	2 6		3 0
Pigeons	0 8		0 9
Hares	2 6		2 0
Rabbits	1 4		1 5
Wild do.	0 9		0 10

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 4—10, 1869.	Average Temperatnre near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
4	Th	Meeting of Linnean Society, 8 P.M.	52 0	36.5	44.3	21	1 af 7	27 af 4	18 af 7	16 af 5	1	16 18	308
5	F		53.0	37.6	45.3	20	2 7	26 4	34 8	51 5	2	16 16	309
6	S		52 7	36 3	45.0	19	4 7	24 4	50 9	31 6	3	16 14	310
7	Sun	24 Sunday after Trinity.	52.2	37.0	44.6	20	6 7	23 4	59 10	20 7	4	16 10	311
8	M		51.2	34.6	43.4	19	7 7	22 4	57 11	16 8	5	16 6	312
9	Tu	Prince of Wales Born, 1841.	50.6	33.7	42.1	16	9 7	20 4	after.	19 9	6	16 1	313
10	W	Meeting of Royal Microscopical Society, [8 P.M.	50.5	34.0	42.2	23	10 7	19 4	20 1	22 10	7	15 55	314

From observations taken near London during the last forty-two years, the average day temperatnre of the week is 51 7°; and its night temperature 35.7°. The greatest heat was 63°, on the 5th, 1852, and 6th, 1834; and the lowest cold 17°, on the 9th, 1834. The greatest fall of rain was 1.02 inch.

GRAPE-GROWING IN SCOTLAND.

ALTHOUGH the Vine is not a plant indigenous to this country (England), we have long claimed the honour of being its chief and foremost cultivators. If sunny France and Spain have been able to show us their vineyards, and to let us taste their wines, we in turn have boasted, and honestly so, of our vineries—of our Grapes. We have been able to show them such Grapes as completely to astound by their magnificence. As if to keep men and things on a sort of equality, it seems to be a settled law, that where "Nature doth most, man doth least." This law is well exemplified in the case of the Vine; for where the natural climate is the most favourable for the production of Grapes, it is there that the most miserable fruit are produced. We improve upon, or rather assist, Nature in this way—we make up for the want of a natural climate for the Vine by an artificial one. We receive the Vines from southern Europe, and send thither the fruit, as examples of our skill, so much altered and improved that the original is almost lost sight of and unrecognisable. We take credit for our successes, and attribute them all to our superior management, to the greater attention we pay to cultivation. Granted that we do all this; experienced cultivators have, however, proved that it is more easy to produce good Grapes in this country than in their native climes. Why, we will not inquire; for, be that as it may, the gardeners of England have long pre-eminently shone, and enjoyed the prestige as the champion Grape-growers of the world.

How long will this last? however, we inquire. How long shall we the gardeners of England sustain this proud reputation? Passing events would seem to say that the glory is passing from us. We read of a Great International Fruit (Grape) Show in Edinburgh, where, if the words of the Rev. S. Reynolds Hole be true, that "defeat was glory," what must victory have been? We hear on every side accounts of this as the greatest and finest exhibition of Grapes that has yet been seen. And from whence came they—they, the victors? From the foot of the Grampian Hills—from the borders of the Highlands of Scotland. Good Grapes were there as well from many other parts of Scotland; good Grapes were there from England—from England's champion growers—yet the glory of the contest, the place of honour, was undeniably won by Scotland; and honour to whom honour is due.

It is not a great many years since it was a settled article of belief amongst English cultivators, yes, and Scotch ones too, that first-class highly-finished Grapes could not be produced north of the Tweed, however great the skill, or however much the care taken in their cultivation; the climate was too cold, the summers were too short and sunless, &c. Is it the climate or the seasons, then, that have altered? or is it the cultivators who have triumphed over and surmounted the difficulty, if such there was? We have no evidence of the former, therefore the entire credit is due to the latter. I do not affirm that Grapes are more difficult of cultivation in the northern part of the kingdom than in the southern. I simply call attention to this noteworthy fact, that the finest Grapes, both for appearance and flavour, at the late show came from the most northern exhibitors. I call attention to the remarkable excellence to which Grape cultivation has now arrived in Scotland, and note the exceedingly rapid progress made in that one department during the last few years.

When the first International Fruit Show was projected in Edinburgh, we in the south had little fear for our "laurels." It was, however, with something akin to astonishment that we were met with the magnificent productions of Mr. Fowler, of Castle Kennedy, and Mr. Thomson, of Dalkeith. This year we have been again invited to the fight, again to be vanquished, this time more smartly than ever. Again we have had a new antagonist to encounter; this time it is Mr. George Johnston, gardener to the Earl of Strathmore, Glamis Castle, Forfarshire, who for his signal successes, having obtained eleven first prizes for Grapes, must be designated the champion amongst Grape cultivators.

It may be inquired by those who have not been able to see for themselves whether these Grapes, which have excited so much interest, were superior, or even equal, to those usually to be seen at our own exhibitions—in our own gardens? I dare to say they were, and very much so. The Grapes exhibited at our southern horticultural shows latterly have been, with a few exceptions, notoriously indifferent in quality. There has been a very perceptible falling off in the general muster of the Grapes at our shows during the past two or three years, in spite of all our boasted improvements in their culture. Grapes are certainly not so well represented now at our exhibitions as they were even six or eight years ago. It may be argued that we have had no good autumnal exhibition calling for a display of this kingly fruit. This is quite true, but independently of all that, I venture to say that we, as a nation of Grape cultivators, are sleeping in our spurs meditating on past glories, while our northern friends are prancing triumphantly ahead of us.

We are enabled to see that which is, we can also contemplate that which has been. Twenty years ago could we have written thus of the Grapes in Scotland? Scarcely; for every good bunch that could have been found then, I will engage to find thousands now—yes, and thousands finer. It is not a difficult matter to trace the source, to discover the cause, of this great impetus in Grape-growing. I have but to point to the man. I have but to name Mr. Thomson, of Dalkeith. From the very day that he recrossed the border on taking charge of the gardens at Dalkeith, then world-famous through his predecessor the great Mr. McIntosh, horticulture, in especial Grape culture, has made rapid progress in the north. By his own noble example of culture at Dalkeith; by his practical instructions so clearly given in his book on "The Vine;" by his able editorship of "The Gardener," a publication enjoying the confidence of most practical gardeners; by

his skilful advice so freely given, the encouragement bestowed, and the little inducements leading people on so continuously at play, Mr. Thomson has done more to engender a love of gardening, to popularise and extend the cultivation of Grapes, in Scotland than any man ever did. Scotchmen, therefore, one and all, owe him a deep debt of gratitude. I believe I am not doing any harm in stating that the famous vineries and Vine borders at Castle Kennedy, so ably managed by Mr. Fowler, were formed from Mr. Thomson's plans. Then, again, the vineries and borders at Glamis Castle have been made by Mr. Fowler after the same model. I can also point to some vineries at Mr. Lindsay's, near Dalkeith, 200 feet in length, with the most enormous crop of good fruit I have ever seen, a perfect mine of wealth to their possessor, and to another lot at Mr. Christie's, Craigend, which will next year astonish the world unless I am much mistaken. Such rods of only one season's growth I could never have believed possible to be produced. At Hopetoun House, also, the Grapes are most meritorious, and highly creditable to Mr. Niven, although produced under disadvantageous circumstances. Those at Lochryan House may also be noted as praiseworthy, and lastly, the production of that Brobdingnagian bunch of Syrian at Askelton Gardens by Mr. Dickson, weighing 16½ lbs.! the largest bunch ever produced since the famous one of Speechley, which required two men to carry it.

At another time I shall have more to say in detail on some of the Grapes in Scotland. At present I call my brethren's attention to our defeat. The mantle lies on the other side of the Tweed at present. Who is the southron bold enough and strong enough to take it up, and wear it? Let us try; for, in the immortal words of Nelson, "England expects that every (garden) man (with Grapes) will do his duty."—ARCHAMBAUD.

THE CULTIVATION OF HYACINTHS IN THE OPEN GROUND.

THIS is a continuation of the subject of spring decoration touched on in the preceding papers. Actually the Hyacinth is but little known as a border plant, probably for two reasons—First, because it is thought to be an expensive bedder; and, secondly, because the flowers are so liable to be injured by exposure to adverse weather. No doubt the first is the great difficulty, and yet the display is so great, and so thoroughly enjoyable, as to serve as a set-off in a remarkable degree to the matter of expense. This last item is apt to be unduly magnified, and many are thereby deterred from making an attempt. There is also the impression abroad that the climate of England is unsuited to their growth, except for the first year of their importation. There is much reason to doubt the correctness of this conclusion, and one who has visited Holland has left on record the results of his observations, as follows:—"I question the correctness of this opinion: first, because the neighbourhood of Haarlem, the great region of their production, is on the same parallel with the centre of England, nor is the difference of climate at the season of the year when Hyacinths are under its influence, perceptible in other things; secondly, because the method of curing the bulbs pursued by the Dutch, is never, so far as I have been able to learn, fairly tried in England, nor is the soil or place of their growth out of doors regulated by a due knowledge of the wants and habits of the plant; and, lastly, because under certain circumstances it has happened, that persons who plant their forced Hyacinths, after flowering, in the open borders, and leave them undisturbed, have found in a year or two, that the self-acclimatising power of Nature has restored some of these exhausted bulbs to their original powers of blooming. Now, if this happened but once, it would show the recovery to be possible; but, in fact, it happens often, and when no particular care is taken, leaving us to suppose that it arises from the bulb meeting with some peculiar soil and locality which agrees with its constitution. And this I take to be the true cause of the restoration; so that sufficient encouragement is really given to those who have the opportunity and the will to attempt the native growth of this beautiful and fragrant flower in England." This passage is a suggestive one, and certainly contains much to arrest attention and challenge consideration. To the rich—those who can afford to purchase yearly several hundred Hyacinths for bedding purposes—the matter is but of small moment; to those who cannot afford to purchase yearly, and who would be glad to know some mode of utilising their bulbs, so as to render service for a few years in succession, the matter is one of importance.

I am of opinion that the constitution of the soil is of the first moment in the cultivation of the Hyacinth in the open ground. The soil of the bulb fields of Haarlem is either a light but rich sandy peat, or pure sea sand rich in saline matter. It is in this that the bulbous and tuberous plants thrive so surprisingly, "and I believe that it is the soil and the mode of cultivation" (so says an observant visitor), "not the climate, that make the difference between the English and the Dutch-grown Hyacinth." It is a fact that in this Haarlem soil the roots of the Hyacinth have been known to penetrate to the depth of 3 feet. This suggests a depth of soil admitting of the Hyacinth rooting deeply, though a depth of 3 feet would not nearly be reached as a general rule. Some drainage is requisite; perhaps nothing could be better than a thin substratum of brick rubble similar to that used by Mr. Gibson for a like purpose at the bottom of those glorious subtropical beds in Battersea Park; for though drainage may seem to be of little consequence to a plant that grows well in water alone, yet this would be found a mistake, as in cold, sodden earth the roots canker, decay, and perish, as soon as those of any other plant. Depth, pabulum, freedom, are the watchwords of a fine old cultivator of the Hyacinth in the open ground, and they are the secrets of the cultural process that assuredly lead to success.

Some twelve years ago one of the most successful cultivators of the Hyacinth in the open ground was the Rev. W. Le Poer Trench, D.D., of Moylough Rectory, Ballinasloe, Ireland. Probably the climate was to some extent favourable, but the circumstance teaches how much can be done by paying some attention to the requirements of the plant. Only fancy "flowering the same root for fifteen consecutive years to a degree of perfection fit for any show stand;" and yet this is what Dr. Trench did at the time I have stated, and for aught I know to the contrary, may be doing still; and what was equally remarkable, Dr. Trench also brought forward offsets to a flowering state equal to the best imported roots. The mode of cultivation adopted by Dr. Trench can be best given in his own words. "I empty out the bed in the first week in October, fully two spades deep. I then fill it up, one spade high, with pure fresh cow dung, separated as much as possible from straw, mixed with an equal portion of half-decayed leaves—say one year old. The remainder of the bed is then filled up with well-decayed leaf mould (two years old) three parts, and fine pit sand (if I could get it I would use sea sand) one part. Of course, the bed is raised to the usual height in the centre, and the substratum of cow dung and leaf mould is raised in proportion, so as to bring it in the centre, as well as at the edges, within about 16 or 18 inches of the surface. I plant in the first week in November. I empty out, with the hand, the space in which each root is to be deposited, removing the compost to such a depth that the crown of the root, be it large or small, shall be 2 inches below the surface. The hole being thus opened, I sprinkle some sand, about the fourth of an inch in depth, on the bottom; I then deposit the root upon the sand, and cover it all round and over with sand. If there are any promising offsets, I plant in the same way round the parent, only, of course, placing them nearer to the surface. In every future year after the first, when the bed is emptied out, the bottom and top stuff are carefully mixed together, and one-eighth part of sand is incorporated with them, and that is used for the top-filling, instead of the leaf mould and sand. I never permit offsets to flower until the bulb has attained the full size. I do not protect in any way until the florets are beginning to expand, and then I cover with an awning, which is not removed until the bulbs are taken up. Every flower-stem is cut off as soon as the beauty of the bloom is past. The bulbs are taken up when the foliage turns yellow, and dried in an airy, shady loft. The withered foliage and all offsets are then removed, the bulbs cleaned, and put by in silver paper, in a paper bag, duly labelled, until the ensuing planting time."

I trust the re-appearance of these admirable rules will induce many of your readers to attempt the cultivation of the Hyacinth in this manner, as it is quite certain that there is no necessity for abandoning the bulbs after the first year's flowering. A dry and airy part of the garden should be selected as the situation for the bed; a southern aspect is to be preferred, and if there can be added some shelter on the north and east sides, either by trees or buildings, or evergreens, the beauty and duration of the bloom will be benefited thereby. It need scarcely be stated that the bed should be beyond the reach of any drip from the trees.

The earlier-blooming sorts of Hyacinths, information regarding which can only be obtained by experience, should be

planted from 1 to 2 inches deeper than the rest, so that all may be in bloom at one time. This is supposing several sorts and colours to be used. As a general rule, the blue flowers are the earliest to bloom, and the deepest in colour the first, the red next, the white third, and the yellow last.

A bed of Hyacinths scarcely ever, or never, requires watering at any period; the rains that happen after planting are generally more than sufficient, both for the roots and bloom, and after the bloom is over they are rather prejudicial than otherwise, unless very moderate. In the case of severe frost, especially if it follows soon after rain, some protection should be given, and it will be the more necessary if the bed occupy an exposed position.

How finely Hyacinths can be bloomed in the open ground is wonderfully illustrated each spring in the pretty and pleasant spring garden at Glen Eyre, Southampton, the seat of Mrs. Eyre Crabbe. Though the bulbs employed represent only the ordinary mixed border Hyacinths sold at the shops, they yet produce heads of bloom that would be thought much of if they could be so produced in pots. Nearly a thousand Hyacinths are bedded out each autumn, generally in long serpentine beds, in lines of red, white, and blue; they are the feature of the garden, and make a display that can alone be appreciated by those who look upon them. It is now the custom for the leading Hyacinth-dealers to import from Holland specially for bedding purposes second-sized bulbs of leading sorts like Baron Van Tuyll, Charles Dickens, and Emicus among the single, and Bloksberg, King of Wurtemburg, and Richard Steele among the double, blue flowers; Duchess of Richmond, Madame Hodson, Norma, and Robert Steiger among the single, and Grootvorst and Waterloo among the double, red flowers; Grand Vainqueur, Themistocles, and Voltaire among the single, and Anna Maria, La Tour d'Auvergne, and La Virginité among the double, whites; and a few shades of yellow as well. These are well adapted for bedding, and there is the additional advantage of securing uniformity in height and hue for any special purpose.

I trust I shall have carried with me not only the sympathies, but also the resolves, of many of your readers, and that they also will strive to emulate in some degree what is being so worthily done by others with the Hyacinth in the open ground. It is not too late to make an attempt in the present autumn, and there is ample material at hand for those who want it. To such, if they labour well and patiently, a large result will accrue as their fitting reward; and when the forerunner of spring shall call into active play the forces hitherto unseen, but none the less contributory, that compose its gentle government, they will see that which sweetens labour, gladdens the eyes, and brings reverent thoughts to the heart.—Via.

THE GOLDEN CHAMPION GRAPE VINE.

As the raiser of this Grape, I regret to observe that writers in the columns of the Journal have failed in growing it satisfactorily. They seem to think that its constitution has been debilitated by excessive propagation, but I do not think this has been the case. I have seen it growing in many gardens this year, and with one exception, in great vigour. Mr. Barron, of Chiswick, called here lately, and I took him to see a garden in this neighbourhood, where the Vine had made rods like walking sticks. I recently called at Airthrey Castle, the seat of Lord Abercromby, where I saw a houseful of Vines that were planted last May; they were all vigorous, and up to the top of the house, but the Golden Champion was by far the strongest in the house. I could name a dozen such cases, but will only add that my brother, on taking the management of the gardens at Drumlanrig, found it necessary to renew the Vines, and determined to plant fifteen Vines of the Golden Champion. Some of these I sent him, and others he raised from eyes this spring. I have not seen them, but those who have tell me that they are, without exception, the strongest Vines of their age they ever saw. With me here, it grows alike vigorously either grafted or on its own roots.

Now, for the exception to this rule, as far as my own observation goes. The gentleman had the plant from me, and not from Messrs. Osborn. I saw it some three months after it was planted; it had made a miserable shoot about 6 inches long, and there it stopped. I took it out of the soil, and the conclusion I came to was, that the plant, when in a dormant state, had been kept far too dry, and the strong and fleshy roots this Vine makes had all perished before it was planted. Strong bottom heat alone could have started it into growth. If in this I am correct, there may have been many such cases, and no Vine I am acquainted with is so likely to suffer from such a cause as this is, from the fleshy nature of its roots. My brother fruited it on its own roots at Archerfield, and the fact that on entering on the management of a garden like Drumlanrig he has at once planted fifteen canes of it, bears sufficient testimony to the high estimate he has formed of its merits.

I see it noted by a writer that this Grape is liable to be spotted. This took place in one house here during the present year to a small extent, where an overdose of sulphur was applied to the pipes, but in no other case; it was purely exceptional, and other Grapes in the same house were also affected, though in a less degree.—W. Thomson, *Dalkeith Park*.

CHOICE EXOTIC FERNS.

Cheilanthes elegans is an exceedingly pretty, neat-habited species, and one of the most beautiful of the tropical American Ferns. I have a specimen in a No. 1 pot. It is one of the most beautiful Ferns I know. I have had my specimen now three years, and feel well repaid for the care I have taken of it.

The mode in which I have best succeeded in growing it is potting it in a No. 2 pot, with good drainage. I use charcoal broken up finely in compost, and when potted I put it into a No. 1 pot, and fill up to the rim with cocoa-nut fibre the space between the two pots; I then plunge the plant in gentle bottom heat. It requires shade; mine is under the shade of a plant of Musa Cavendishii, is quite 2½ feet in diameter, and is exceedingly fine for exhibition purposes and the decoration of the stove.

Gymnogramma Laucheana.—This is one of the best of Golden Ferns, and with me is very free-growing. The under sides of the fronds are thickly covered with golden powder; the upper surface is of a most beautiful green. A fine specimen of this Fern is very effective and beautiful.

Gymnogramma chrysophylla aurea.—Although old, this is one of the best of the Golden Ferns, and is very easily grown. I have a specimen in a No. 1 pot with lovely fronds reaching over the rim. In my opinion there is not a more beautiful Fern. It is also very useful and effective for the decoration of the dinner-table when it is grown in small pots.

Lomaria gibba.—Of this I have a most beautiful specimen in a No. 1 pot, with a stem upwards of a foot in height, and resembling a miniature tree Fern. This Lomaria is well adapted for exhibition and other decorative purposes.

Gymnogramma pulchella.—This is one of the finest Silver Ferns I know, and is of very free growth. The beautiful silvery fronds are much more graceful than those of G. tartarea. I have a fine specimen of it, and it bids fair to stand in the front of our Fern houses.

Blechnum corcovadense.—I have a plant with fronds upwards of a yard in length. I recently saw a specimen of it in Sussex, the finest I have ever seen. This Blechnum is valuable for the decoration of the stove, and for exhibition. I could mention many other beautiful Ferns, but my object in offering these notes is to induce others to state what Ferns succeed well with them. There are many kinds not worth growing. When I see a good free-growing Fern I make a note of it, and obtain a plant as soon as possible.—F. P. L.

NEW GLADIOLUSES.

On receiving Messrs. Verdier's lists from Paris I found that there was a considerable difference in the names of those given there and those given in my notes taken at Fontainebleau. I therefore at once wrote to M. Souchet, and send herewith his answer. He says some changes have been made in the names, and sends me the following memorandum:—Robert Fortune has been changed to Rosa Bonheur, Rosita to Armide, Maxima to Lacépède, Asmodée to Horace, Gloria Florum to Canova, Pétrarque to Pericles, Phœnix to Robert Fortune, and Eléonore has not been sent out, as it was not sufficiently increased to enable him to do so.

It may be some consolation to those who are bewailing losses among their bulbs, that M. Souchet complains of a very sensible loss among his cultures. With regard to any advice as to the new ones, which I have been solicited to give by several correspondents, my decided opinion is, from the experience of past years, and from what I saw at M. Souchet's, that if a limited sum has to be laid out in new varieties it would be

better to select those in the first and second series; for although occasionally some of the other series may be desirable, yet it is only an exceptional case, and for the last few years the dearest varieties have been the best. If the pocket allow it, I should advise the series of twenty-four; the remaining nine I know nothing of.—D., *Deal.*

MILDEW ON ROSES.

I, IN my turn, would like to be of use if can, and I venture to send you a receipt for the cure of mildew on Roses. I may state at once that this is not a discovery of my own, but a remedy recommended to me by a lady who is a most successful grower of flowers, and she received it from a nurseryman. I assert that it is a complete cure. Rub down in a gallon of soft water 1 lb. of soft soap; with the solution syringe the upper and under surfaces of the foliage, and the mildew will disappear as if by magic. Mr. Rivers recommends a cure in soot. Perhaps soap is more cleanly; it is, I am sure, as effectual—though I do not for a moment doubt the efficacy of soot—and an outlay of one shilling will clear one hundred plants from every vestige of the disease if properly applied. I find it useful to syringe the trees with clear water next day to rid them of the whitish deposit which fixes on the edges of the leaves after the application of the solution. There is no necessity to cut off the blooms; the solution could only damage these in proportion to the force with which it hit them, and as contact with the mildew is all that is required, no force is necessary.—J. G. S.

VINE-GRAFTING, POLE-TRAINING, &c.

I HOPE "A READER" (page 328), as well as others, may find the following answers to his questions useful:—

First, "degree and source of heat?" I think it only proper to state, that the Vines now fruiting had been grown altogether out of doors, and the fruit ripened in that way. The house, 40 feet by 16, was constructed by myself ready for the glass, but that was not fixed into the rafter sash-bars till the beginning of December, 1868, and then only to protect the roots from being sodden with snow and rain. No heat of any kind was given, except that which could be obtained from the sun, till the middle of September, 1869. On the 20th of that month the first fire was lighted in the iron stove lined with fire brick, to finish off the Grapes and harden the canes for next year's duty. The stove contains about a cubic foot of small coke, and there is a 4-inch pipe through the roof for smoke. The temperature of the house for several mornings when the young bunches appeared, was as low as 34°, and not more than 50° with sun at midday—have the kindness to remember the very long cold spring of this year. During the summer, when I obtained 75° with sun, every opening for air—the doors at each end, the wood flaps front and back—was set open. At no time, even during frost, day or night, is the house totally closed. The glass is so placed at the top and each end, that a stream of fresh air is constantly passing through the house day and night. This is of vital importance to all plants.

"Are such Grapes pole-grown?" Yes. My poles are some of them 7, and others 9 feet long. The slope of the roof gives this. Some of the Vines have two poles, some four poles to a stool. This depends on the vigour of the plant. Again, I have Vines which in time will want eight poles; this will give—say 72 feet run of cane, enough to maintain a plant in robust health, consequently highly fruitful. I do not confine my Vines to any given number of poles; the vigour of the plant and the cultivator's judgment must do this; but in no case would I confine a strong, robust Vine to two poles when it was able to fill four, yet I think eight poles of 9-feet length quite sufficient scope. In all pole-training, one-third more length of rod for fruiting is obtained, let the size of the house be what it may; also the great advantage of sun heat to the roots upon the inside border, and being able to grow pot plants, or protect them, which cannot be done when the roof is a mass of Vine leaves, as when Vines are trained to the rafters. Again, the Vines are warmer, being more in the body of the house, and the foliage not so exposed to cold as when roof-trained.

"In borders, or pots?" Part of the Vines are in the borders, and part in large pots, as I contemplated the removal of some of the Vines to give room to others. The Vines in pots had all the holes in the pots' bottoms made very large to enable the roots to run out, and the pots were sunk deeply enough for the roots to run out over the rims as well.

Pruning. I am adopting two distinct modes. First, if the Vine has four poles, I let two rods produce Grapes, while grow two rods for the next year's fruiting. Those which have fruited I cut away as closely to the earth as possible, leaving one eye only to produce the rod to fruit again. If a two-pole Vine, I fruit one rod; if an eight-pole Vine I fruit four poles.

I may distinguish another method of pruning, as No. 2. It will not matter if the Vine is a two or an eight-pole one, as in this case I fruit a rod to every pole; therefore, I obtain a double crop, as compared with the first method of pruning; but to make up for the work imposed on the Vine, I fruit every other Vine; thus, if Vine No. 1 fruited all its rods this year, when the Grapes are gathered it is cut down to the earth, and next year it grows canes only for again fruiting the year after. So, in one case I fruit every alternate cane, and in the other every alternate Vine. Which of these two methods I may adopt, time must decide, or possibly the habit and constitution of any particular Vine.

My house is a lean-to, but I prefer a span-roof with a sharp-pitched roof. Any lady or gentleman can view this house of Vines by calling and leaving a card of address at my dwelling; and if "A READER" thinks of planting, do not forget a grafted plant of Chasouch. All who taste say it is delicious, and should he give me a call, he shall have a berry to decide for himself, provided the call be made within fifteen days, as I have only a bunch left, and that will be at the Royal Horticultural Society's meeting, on Tuesday, the 16th of November.—R. M. W., *Mount Pisgah, near Sheffield.*

GYMNOSTACHYUM PEARCEI AND VERSCHAFFELTI.

"F. P. L.," page 319, highly recommends Gymnostachyum Verschaffelti and Pearcei. They are worthy of all his praise; their charms are not transient, but the longer we look at them the more we see to admire. In the leaves of these plants, as it were the mystic works of Nature, how interesting to trace the ramifications of the veins carrying life to every part and extremity of the leaves! How supremely skilfully these supply-pipes are laid! In truth, as "F. P. L." says, every leaf is a complete bouquet; it is this and more—it is a book, teaching skill, and care, and beauty, and wisdom—read it. I can never think of the Gymnostachyums without associating with them their equally beautiful ally, Fittonia argyroneura; twin sisters in form, beauty, and decorative adaptability, they should never be separated.

In addition to the mode of culture noticed by "F. P. L.," they are very fine as pyramids; fill a large pot or pan with soil, insert round its sides stakes of strong wire, and fasten them together to a circle of wire at the top, of sufficient diameter to allow of a pot falling in and fastening itself. Other circles of wire must be fastened round the uprights for firmness. Have ready a lot of small, fresh-struck plants; put a row round the edge of the pot; then put in the trellis a layer of soil, finishing on the outside neatly and firmly with moss. Continue to build up with soil and plants until the top is reached. Finish by inserting a pot containing a plant in the top. This is better than bringing the wires together to a point, as the pot can at any time be lifted out, and sufficient water can be poured in the cavity to percolate the entire pyramid of soil. The soil for this purpose should be very open; lumpy peat, perfectly dry cow dung, cocoa-nut fibre, or chopped moss and lumps of charcoal, will be suitable. The amount of house room, and number of plants at command, will determine whether the pyramid be 1 or 10 feet high. Such pyramids are really fine objects, and are now a distinctive feature in most large collections of stove plants.

The plants should be put in early in spring, when a brisk heat and plenty of atmospheric moisture can be provided them, and they will make rapid progress.

These plants, and especially Fittonias, delight in a shaded place. Direct sunlight mars their beauty. It is to me a little singular, that with two plants standing close together, while the brown scale makes determined and persistent attacks on the Gymnostachyum, it never attempts a lodgement on the Fittonia, nor are either of them troubled by any other insects that I am aware of.—J. W.

SOOT AS A REMEDY FOR MILDEW.—After a practice of two seasons in occasionally dusting my store Verbenas with soot, I find it better than other things I have tried, keeping the

plants free from insects and mildew, and in good health. To be efficient the dusting must be thoroughly done; not only the upper, but the under sides of the leaves and the stems must be completely blackened, and remain so for forty-eight hours at a time.—J. W.

POT VINES.

Since writing my little work on the Vine, several persons have asked me why I did not write a chapter on the cultivation of pot Vines. As I hear a third edition will soon be required, I think of adding a few words on this part of the subject.

Several years since three different gentlemen told me they had purchased Black Hamburgh Vines at 10*s.* 6*d.* and 15*s.* each, which had never shown a single bunch of fruit. If one person had told me this, I should have thought it hardly possible. When it was first mentioned I said, "Of course, they must have been strong canes, and appeared well ripened, or you would never have paid such a high price for them. Now, in grafting Muscat Hamburgh on the Black Hamburgh, our men always choose for scions the weakest Vines we have left, and yet many of these weak grafts show fruit. Customers of mine who have bought common planting canes at 5*s.* each, have shown me the same Vines carrying nine or ten bunches of good Grapes. How, then, is it possible such Vines as you describe could fail to fruit?" For the last year or two I have kept this problem in mind, and have at last, I think, solved it. It is quite clear, as all growers of pot Vines know, that if during a great part of the season anything had been wrong, they would never in appearance even have made fruiting canes. The soil must be suitable, heat sufficient without being too great, watering carefully attended to, if Vines are to be strong in one season; indeed, a very trifling neglect will destroy all hopes of good pot Vines. It was, then, after their growth was completed, that these barren Vines were injured. I learnt, on inquiry, that whilst yet quite green water was withheld from them entirely, to ripen them and make them drop their leaves. Is it wonderful that Vines so treated should not fruit?

This great anxiety to get rid of foliage, as a proof of ripeness, is productive of great injury. I always act on the exactly contrary idea, and believe everything should be done to preserve the foliage to as late a period as possible. Vines ought never to suffer from want of water even during winter, when devoid of leaves, much less when in leaf. To prevent Vines suffering from drought, it is not necessary to keep them sodden with water. Careful watering, guided by intelligence, is, perhaps, the greatest point in the cultivation of all plants under glass, but it certainly is so in Vines. I remember Mr. Thomson, of Dalkeith, showing me two sets of pot Vines, grown in the same house, in the same-sized pots, and the same soil, one of which was as good again as the other. "There," said he, "you see the effect of watering; two men had charge of these Vines, and watering has been the only cause why one lot is so superior to the other, and yet I thought both careful men."

It is a common remark, "That no one knows how fat a beast will turn out so well as the feeder," and I fancy the ripeness of Vines is best known to those who have had the care of them. Last year I had a lot of fine pot Vines, which many gardeners told me were not ripe, because the leaves were green up to October. I knew they had been ripe for many weeks. Now these same Vines were forced early at Chatsworth, and produced many bunches of 3 lbs. weight. It was lucky they were in such skilful hands; but if they had been unripe, even a Speed could not have produced such Grapes.—J. R. Pearson, *Chilwell.*

Gardeners' Dinner and Presentation at Altrincham.—The name of Mr. Thomas Baines, gardener to Horatio Micholls, Esq., of Summerfield, Bowdon, has been for a number of years known to, and highly respected by, the lovers of horticulture. Owing to the removal of Mr. Micholls to London, and Mr. Baines leaving, it was thought desirable by a number of friends of Mr. Baines, that some tangible token of their esteem should be presented to him before leaving the neighbourhood, and the presentation took place on the 27th ult., at the Axe and Cleaver Inn. A party of thirty-two subscribers and friends sat down to dinner at seven o'clock. After dinner, the Chairman handed to Mr. Baines the following address, illuminated on vellum, and mounted in a handsome gilt frame:—"Presented, with a gold watch, to Mr. Thomas Baines, by the gardeners and friends of Altrincham, Bowdon, &c., on his leaving the neighbourhood, as a mark of their esteem and regard.—October 27th, 1869." He then presented a very handsome and massive gold watch, bearing the following inscription:—"Presented to Mr. Thomas Baines, by the gardeners and friends, as a mark of esteem, on his leaving the neighbourhood of Altrincham and Bowdon.—October 27th, 1869."

TEA-SCENTED ROSES.

Having been for many years an ardent admirer of the Rose, but especially of that deservedly popular class the Tea-scented varieties, so remarkable for free-blooming, fragrance, and delicacy of tint, I determined on paying Mr. Pavitt, of Bath, a visit, where, I felt sure, I should find a fine collection of these his special favourites, of which he is an enthusiastic cultivator. I wish now to give the readers of this Journal a few notes of my visit to the nursery.

The plants were robust and healthy; some of them were growing on the Briar, but they were principally on their own roots, and even on the 12th of October in a sheet of blossom, reminding me more of May than the present autumnal season. I found more than seventy varieties in bloom, and scarcely knew which to admire most; but I particularly noticed Adam, Moiret, Souvenir d'un Ami, Niphetos, Madame Willermoz, and Souvenir d'Elise as very fine, and as sorts that will hold their own in every choice collection. I also noticed Jaune d'Or and Madame Falcot, both lovely; Madame Charles, new, and an improved Abricoté; Marie Sisley, a charming novelty, a perpetual Blairii, and a decided acquisition; Adrienne Christophle, quite a new colour and very distinct; and the most glorious of all free-flowering Roses, Maréchal Niel, which seems to luxuriate in Mr. Pavitt's nursery, and is, I think, his special favourite, for he sends whole bouquets of them to his numerous horticultural friends. I will only add that I hope to see many of the Tea-scented class take a much more prominent position in every garden, for what can be more beautiful?—A. A.

UNFRUITFUL FIG TREES.

A lady, "Mrs. J. W.," has a Fig tree rather thick in its wood, of which we recommend her to thin out a portion of the oldest, that the wood left may be more exposed to the sun and air. That, however, of itself will not check luxuriance, and we have no doubt her tree is too luxuriant. The Fig tree will always bear best on short-jointed firm wood, and all the more if the wood made every season is only a few inches instead of a foot or two in length. The most radical remedy is to root-prune the tree, removing the earth on one side so as to get beneath it, cutting through all tap roots, if any, and shortening all that extend above 4 feet from the tree; drain the space well, build a wall or use other means to prevent the roots running further, and pack the roots left in fresh turfy soil with a little lime rubbish in it, and water rather liberally in dry weather in summer. The Fig tree, when growing, likes moisture, but it must pass away freely.

If this is too much labour, then we would advise ringing all the main branches near the bole, taking out the bark close down to the wood for a quarter of an inch wide, and doing it again if the ring heal over without checking luxuriance. We some time ago saw two Fig trees against a wall, the one very luxuriant but almost barren, the other very moderate in its luxuriance but loaded with Figs, the joints of the wood being very close together. Both trees had been covered up in winter; but as respects the fruitful tree, the mice and rats had so gnawed the stems, that they did for them what ringing would do—checked the luxuriance, and thus the growth was more stunted and fruitful, because better hardened and ripened.

LADY-BIRDS.

Can you tell me, if I collect lady-birds now, whether I can keep them during the winter so as to breed from them next year, and turn out the produce in my orchard house? Surely something might be done in this way to rid our houses of the aphis without the use of tobacco, &c.—J. C., *Winchester.*

[We sent your note to one of our best entomologists, and in reply he says, "It is an excellent suggestion. The lady-birds

thus collected would creep into rolled-up foliage or other out-of-the-way corners, and become stationary during the winter, and be ready on the return of spring to deposit their eggs where they could find a supply of aphides.—J. O. W."]

VEITCH MEMORIAL.

Our readers would observe from the report of the preliminary meeting in last week's Journal, that the Veitch Memorial is now fairly started, and that a numerous Committee has been formed to carry it out. Formed, as this Committee is, of some of the most influential gardeners in the country, we have no doubt that when the individual members and the Sub-Committees get fairly into working order that the desired result will soon be attained. High as those names are, however, in the gardening world, they will not of themselves stimulate others to do the work. Members of Committee must take the matter in hand, and do manfully and energetically that which he whom they wish to commemorate would have done had he undertaken a similar duty. It is not enough "to lend your name." One of the most touching features of this movement is, that it has been initiated by the professional gardeners, and so generally was this desire to perpetuate the name and reputation of their friend expressed, that it amounted almost to a yearning, the numerous letters we received on the subject evidencing how strongly this feeling exists. It reminds one of the warm attachment that soldiers not unfrequently exhibit towards their general, and is, perhaps, unparalleled in the gardening world. Let us trust, then, that the work so auspiciously begun will be carried out to a speedy and successful issue.

The form which this memorial will assume is as yet uncertain. A good deal of consideration will have to be given to the question. Many suggestions have been, and, no doubt, will still be made before any decision is come to. Among those proposed at the meeting were a monument, a portrait, a medal, a prize, a Gardeners' Benevolent' pension, a club and library, a fund for disabled collectors, the education of gardeners' orphans, the erection of an Orchid house, and some others; all good in their way, and all, no doubt, the promptings of minds impressed with the importance of the subject. While the form to be adopted is yet unsettled, it may not be amiss to consider what appears to us to be the most desirable.

The essentials that a memorial ought to possess are permanence and publicity. To adopt anything that would merely last for a generation or two, or which, if it were ever so permanent, did not force itself on the public attention, in either or oth cases it would fail in the desired end. Of the suggestions that have already been made, the monument, the portrait, the medal, and the prizes, appear to contribute most towards the object, and it is in favour of these that Mr. Veitch's family are understood to have expressed themselves.

Let us consider each of these propositions singly; and first of the monument. No doubt a monument would be a very fit and proper mode of perpetuating Mr. Veitch's memory. Supposing a suitable design were obtained, where is it to be erected? If in the cemetery where Mr. Veitch lies buried, according to our idea the fitting publicity will not be obtained, and the desirable object of keeping his name prominently before the horticultural world will fail. The world moves very fast, and the greatest players are soon forgotten unless something turns up every now and then to recall them. Philip Miller, the author of the "Gardener's Dictionary," was for more than half a century a shining light in the botanical and horticultural world, a Fellow of the Royal Society, and frequently a member of its Council. His fame was so great he was styled by foreigners "Hortulanorum Princeps." A monument was erected to Philip Miller, but how many of the present generation know where that monument is? and who but for the "Gardener's Dictionary" would ever know about Philip Miller? That monument a few years ago was a mouldering stone with an illegible inscription. John Claudius Loudon a generation ago was a name familiar to every horticulturist. The man is gone, but he lives in his works; and by his works only, except to a few, is he known. Mr. Loudon has a monument erected to him, and though a generation has barely passed since his death, how many of those who now read what we have written know where Loudon's monument is? David Douglas is a name that once excited admiration and sympathy in the horticultural world. His fate shocked the feelings of the country for a while. He, too, had a monument—where is it? How often is his name heard except in the company of those who knew him? Thomas Fairchild, once a nurseryman at Hoxton, whose name the Fairchild Nectarine bears, raised his own monument when he died just 140 years ago. He left a sum of money vested in trustees, the interest of which was to be given for a sermon to be preached on Whit-Tuesday in the church of St. Leonard's, Shoreditch, "On the Wonderful Works of God in the Creation." But who knows anything of Thomas Fairchild? neither his name nor his memorial is kept fresh in the world of horticulture. Now, we have no assurance that a monument to Mr. Veitch would be more enduring than any of these, or keep his name fresh among succeeding generations.

The portrait is equally good and desirable as a monument. It must necessarily be a posthumous one. Assuming that a successful portrait of Mr. Veitch were obtained, and a suitable place were found wherein to deposit it, we think that this would fail in keeping up a constant memorial of him whose memory we love to cherish. The only permanent location would be the national portrait gallery if it could be secured a place there, and even then his name would be recalled only when future generations uninterestedly looked on the picture and read its legend.

A Veitchian medal, or a Veitchian prize, is not open to any of these objections. A medal, or medals, bearing a portrait bust of Mr. Veitch, given annually, would keep alive the name and features of him whose memory we now desire to perpetuate. The opportunities for its distribution will never fail; for horticulture and horticultural shows we shall always have with us, even to the end of time; or if these should cease, the names of those who are associated with them may fairly cease too. How or for what objects these medals should be given, we do not presume to say; these are details that may be left in the hands of those who are entrusted with carrying out the memorial. But we would advise that the sum subscribed be invested in the names of trustees who shall be appointed by the Committee, and that the annual sum arising from the investment be appropriated to the purchase of a medal, or medals, to be awarded not to exhibitors at any particular society, but wherever a worthy application of the award can be found. The medal should be given for merit of a high standard, and, like the Victoria Cross, be coveted not for its intrinsic value, but for what it represents.

All we have said on this subject is merely suggestive. Many, no doubt, will be the views taken by those who give the subject their earnest heed; but the first thing to be done is to get the money, and leave all details for the future consideration of the subscribers generally. Let all, then, do their utmost to raise a sum which will be worthy of the object, and the greater the amount subscribed the more extended and varied will be the character of the memorial.

INFLUENCES OVER THE KEEPING QUALITIES OF FRUITS.

It has been stated that there is some evidence to show that the character of one variety of the Strawberry was affected by growing in the vicinity of other sorts. Mr. Hiram Walker, of Washington County, New York, who has practised grafting since 1818, writes, that according to his experience the same thing takes place with Apples and other fruits, and he thinks the fact that some winter Apples do not keep, is not due to their being grafted on stocks of early varieties. He says he never knew any difficulty in the keeping of fruit where the orchard was all of one kind, but that when early and late sorts were all together, late fruit was rendered early, and early fruit made late, from cross-impregnation. He mentions a tree in Saratoga County which was in part grafted with a sweet variety, but the grafts bore sour Apples for several years; the grafts of the sweet Apple had been put into the lower limbs of a sour Apple tree, and as long as the upper limbs of the original tree remained, the sweet grafts bore sour fruit, from blossoms being impregnated by those on the limbs above them; when the natural limbs were removed then sweet Apples were produced. Mr. Walker mentions other instances of a similar character which have fallen under his observation. The subject is one not only of scientific interest, but of actual importance to all fruit-growers. It is within the observation of every one that a variety of fruit is not the same, even in widely separated localities. This difference is by some attributed to soil and exposure, by others to the character of the stock upon which the fruit is

grafted, and now we have the influence of the pollen of neighbouring sorts charged with being the disturbing cause. Other observations on these points are needed.—(*Utica Herald.*)

VINERY HOUSE, ALLERTON.

Lancashire, especially that part of it in which Liverpool is situated, has acquired a world-wide reputation for the excellence of its Grapes, mainly through the Garston Vineyard, the most celebrated in the world for the production of Grapes by artificial means. Besides Garston, there are other places in the neighbourhood of Liverpool where the Grapes grown, if not equalling those produced at Garston, follow at no humble distance. One of these places is Vinery House, Allerton, Liverpool, the residence of Mr. T. C. Clarke.

Vinery House is not different from many of those convenient family residences which are erected in the neighbourhood of large towns. In fact, the house is not remarkable except for this—that though built four or five years ago, owing to a family bereavement it remains almost as it was when built. Mr. Clarke was his own architect of the glass erections, and superintended everything about the place. The house seems to be built in a very substantial manner, and fitted up with every convenience. The cornices selected by Mr. Clarke for the rooms, struck me as being chaste and elaborate. A boiler in the cellar heats the conservatory and greenhouse, and there are pedestals in the entrance hall and other rooms on the ground floor containing hot-water pipes for heating the rooms. A boiler behind the kitchen fire supplies hot water for the bath room, and heats the rooms on the second or bedroom floor by means of hot-water pipes. Owing to the cause I have mentioned, the works in the grounds have not been pushed forward as they otherwise would have been, but the shrubs and groups of trees are planted and appear to be flourishing.

If there be any deficiency as regards the pleasure grounds, it is fully compensated for by the portion chiefly occupied by glass structures. It is on these that Mr. Clarke rivets his attention, everything being presided over by him, and the principal part of the work being done by his own hands. The extent of the glass must be many thousand feet, and the several structures are so lofty and substantially constructed that they must have cost a considerable sum. The bricks, however, were made on the spot, the soil being a rather strong loam with a clayey or marly subsoil, and the red sandstone underneath. The removal of the clay for making the bricks has made a reservoir for water, so that in the driest summer water is always conveniently obtained, and is ornamental besides.

The situation is generally flat, though somewhat undulating, and portions are even low. The garden, however, is on the rising ground, the dwelling on a gentle eminence, and the houses at the back of it are on even higher ground. Those for Vines are on the highest ground. The situation is so bleak that the back wall of the vineries was blown down three times whilst it was being built; but this, and other mishaps and obstacles, have been surmounted by the perseverance of Mr. Clarke, who, judging from what I saw, has paid dearly for his experience. Being a self-taught amateur, he is free from those prejudices which professed gardeners often entertain against anything new, and which cause them to pass over many things as valueless without giving them a trial. It is only those who strike out of the beaten track who attain anything grand.

The first house I was shown was a conservatory, originally intended to have been connected with the house by a glazed corridor, but this intention has not been carried out. In it were some good examples of Vallota purpurea in large pots, and there being several bulbs in each pot there were many flower stems, and the effect was very fine. This plant is not grown so much as it deserves to be. It is the best autumn-flowering Amaryllid, stands smoke well, and succeeds well as a window plant and in every greenhouse. The chief points to be attended to in order to flower it successfully are not to pot often nor remove the offsets, but to obtain a potful of bulbs. This conservatory was gay with well-grown Fuchsias trained in the form of cones 6 or 7 feet high; one of that size, Souvenir de Chiswick, was very fine, and I do not see that we have any improvement on it in the newer kinds. An equally fine plant of Sir Colin Campbell reminds one of the little advance on this presented by the new varieties we are inundated with every year. A seedling raised by Mr. Clarke, a cross between Sir Colin Campbell and Duchess of Lancaster had flowers twice the size of those of Sir Colin Campbell, with a double purple corolla and bright scarlet, well-reflexed sepals—the best double Fuchsia I have seen. The foliage, of a pale golden hue when young, is twice the size of that of Sir Colin Campbell, and more plentiful, and the habit slightly drooping and compact. This variety is very distinct, and quite an acquisition. There were also Tea-scented Roses in pots, as Devoniensis, and some China Roses; and in borders at the end, trained to the division between the conservatory and the greenhouse, as well as over the roof, were Lapageria rosea in splendid bloom, and Tecoma jasminoides, with its bright glossy foliage, and blush flowers having a crimson eye. I likewise noticed Acacia Drummondi, 8 feet high and 8 feet in diameter, and Acacia armata, 8 feet high and 6 feet in diameter.

In the adjoining greenhouse were good plants of Azaleas of such kinds as Flag of Truce, Stanleyana, &c., and Camellias well set for bloom, the foliage clean and having a bright glossy appearance. Solanum jasminoides in a border appears a good white-flowering climber, the flowers being succeeded by clusters of highly ornamental red berries.

The conservatory and greenhouse are span-roofed, and both are heated by hot-water pipes from the boiler employed for warming the mansion, which will have attached about 800 feet of 4-inch piping in addition to the connections. Along each side of these houses there is for specimen plants a stage with octagonal projections twice the width of the side stages—*i.e.*, the stage and projection are double the width of the stage where the projections do not occur, and this does away with the monotonous straight face of ordinary stages, whilst the disadvantages of a wide stage are avoided. There being free access to the stage between the projections, the plants are not so liable to be neglected in respect to watering, &c., as they are on wide stages. The stages are of stone supported by ornamental iron-work, and have a cornice or facing of iron, which has a neat appearance. The pots are placed on gravel, with which the stages are covered. The centre of the house is open, affording plenty of room to examine the plants. In the greenhouse is a tank which receives the water from the roofs; and a pump, so small that one would scarcely notice its lever-like handle—the only part visible—were it not shown, supplies the water as required. These houses are detached, and divide the pleasure grounds from the kitchen garden.

I next entered a late vinery, a lean-to, 52 feet long by 20 feet wide, but having a short back light. This house is very lofty (15 feet high), and is well ventilated at the back by a lever and crank moving the whole length of the ventilators, and in front the whole of the front lights open by means of a rack or wheel. Thus it is but the work of a moment to increase or diminish the amount of ventilation throughout the length of the house. The roof is of wood, well supported by iron, and though strong has a light appearance while, as the panes of glass are large, light is abundant. Wires are strained lengthwise of the house to train the Vines to, and it is a neater and more efficient as well as economical mode of wiring a vinery than the old plan of iron brackets screwed to the rafters, and strung with No. 6 wire, strong enough to hold a hundredweight each. No. 10 wire is quite strong enough to hold bunches of 6 or 7 lbs. weight, as may be seen here. The border is the full width of the house inside, except that there is space for a walk along the back; and in addition to the inside border there is a 12-feet border outside, the front wall being built on arches, so that the roots may pass out if disposed to do so. The border, both inside and outside, is vaulted or arched with brick underneath, and in the chambers thus formed are hot-water pipes for supplying bottom heat, so arranged that a man can examine every pipe and repair it in case of leakage. By means of side passages from the chamber communicating with the house in the back walk, perfect control is obtained over the heat in the vault or chamber; it is allowed to escape if it become too great, and it is not lost, as it warms the air of the house. Nine rows of 4-inch piping supply the top heat, and an equal number of pipes in the chamber supply bottom heat, and these, with the cross pipes and connections, give a total of 1000 feet of 4-inch piping. Mr. Clarke is in favour of plenty of piping; he likes the heat given off by pipes at a low temperature, especially for the roots, these requiring an imperceptible warmth, and not a dry, parching temperature.

The Vines were planted in 1864. The result in 1869, though not equal to that obtained in 1868, is a good crop; indeed, I think too heavy, considering the age of the Vines. Lady Downe's carries twenty-three bunches per Vine. The bunches are of good size, the berries are evenly and well set, of good size, and of a colour and bloom that would put Sloes in the

background. Here this Grape sets its bunches well, and Mr. Clarke says it is as yet the best late variety. Alicante is here larger in bunch than the Lady Downe's, fully as black, and with quite as good a bloom, but Lady Downe's has a size of berry and beauty of finish which Alicante cannot exhibit. Muscat of Alexandria is bearing an immense number of bunches, and they are not large, affording proof, if it were needed, that to have many bunches on a Vine they must necessarily not be large; though, perhaps, large enough for a gentleman's table, they would not do for exhibition. It is worth mentioning this fact, as some persons expect twenty or more bunches on a Vine, and each bunch equal to those seen on exhibition tables. You may see in every place where Grapes are grown for exhibition which are the Vines relied on. You see them with two or three large bunches, which, perhaps, may weigh a dozen pounds, and a Vine with twenty bunches in a private or non-exhibiting garden, which will weigh upwards of 1 lb. each, or 20 lbs., therefore it produces the heavier crop. The large bunches are not desirable for every-day consumption, for Grapes are never so good as when fresh cut. Mr. Clarke says his Muscats suffered severely last season from drought, and also the Barbaroesa [Gros Guillaume], which is not nearly so fine as in 1868. Having planted a number of Muscat Vines, and not finding them keep so well as Alicante, Mr. Clarke has grafted them about halfway up the house with Alicante, and on the same Vine are white and black Grapes, white at top and black at bottom. The effect is pleasing, and the object sought has been attained, as the Alicante seems to succeed on the Muscat, the bunches being fine, and the colour of the berries jet black. There is a White Nice Vine carrying two immense bunches; the size, however, is the only recommendation of this Grape.

The fourth house, and adjoining the last, is an early vinery of the same size, and the same in other respects, the border being heated, &c. It is at present occupied with Vines in pots, of which Mr. Clarke has about eight hundred fruiting canes. The Vines in pots are very strong, and promise to yield good crops next year, the wood being firm and the eyes plump. The permanent Vines are in appearance like so many bare sticks, but the eyes are so prominent, and the wood so brown and hard, that they seem prepared for the forcing they must shortly have to ripen their fruit in May. The sorts are Black Hamburgh and Golden Hamburgh. The latter succeeds admirably in the heated border, however indifferently it may do in unheated ones. Golden Champion has found a place here. Mr. Clarke has great expectations of it. He has Bowood Muscat inarched on the Frontignan, and with good results, as it ripens perfectly at that early season, but not nearly so well on its own roots, nor so early.

Leaving this house we enter the Cucumber house, at present unoccupied. It is about 12 feet wide, with a walk along the back. In front is a wide border, formed with brickwork, and having a flagged bottom; underneath is a chamber, in which are hot-water pipes for furnishing bottom heat, and to give moisture along with the heat some of the pipes are guttered to hold water, which can be poured into them from the back walk by means of an iron tube with a funnel mouth. Any excess of heat in the chamber can be regulated by means of passages communicating with the back walk, and the heated air being moist is very favourable to vegetation; besides, it serves to make up for any deficiency in the top heat. If I remember rightly, Mr. Clarke employs this house for the propagation of Vines from eyes. The three houses last named have a south aspect with a westerly inclination.—G. Abbey.

(To be continued.)

PLUMBAGO CAPENSIS.

Allow me to say a few words about a special favourite of mine, the well-known half-hardy plant, Plumbago capensis.

I wonder why it is not more freely used in the decking of gardens, for it will prosper out of doors, at least during the three summer months, and its delicate beauty, which, I think, I may call unique, more than compensates for the trouble of sheltering it before the advent of cold weather. I should be very glad to hear any details as to its propagation which the experience of others may have furnished; for, until lately, I have not had the power to do more than buy plants of it to gladden my eyes and heart. I know its capabilities are great, for I have seen it in a high state of cultivation, climbing round greenhouse walls after the fashion of Clematis Jackmanni. So zealous an advocate am I of my favourite that I would fain, perhaps in unconscious defiance of botany, transfer to it the name Agathæa cœlestis, which is bestowed on a plant with fewer characteristics (as it seems to me), suggestive of the country where nothing ever fades. All flowers are heavenly, all are endowed, either collectively or individually, with the dignity of symbolism. The fragrance of one, the purity of another, the grace of a third; the endurance, perseverance, unobtrusiveness, or majesty of many more, are palpably indicative of high and holy things; but I think no flower is gifted with loftier or more varied eloquence than the gentle Plumbago capensis. It seems the flower of truth pre-eminently. Mark its delicate transparency, its wide-open innocence, the exquisitely clear purity of its colour, pale as if in condemnation of all things exaggerated, but deepening its own sweet tint in pencillings that stream out lightwards from the flower's heart. In virtue of its long-tubed throat, the Plumbago capensis (I repeat its second name to distinguish it from P. Larpentæ), may rank among the up-springing plants, as the sweet flowers of the west wind, and all the Amaryllis and Crocus tribes; and this habit of darting upward, emulating in chastity of hue "the Shechinah of the Blue" beyond the clouds, is additionally typical of "things that are not seen." Again, the fragility of this plant's physique proclaims it to the fanciful mind a stranger in a world of storms. Among such blossoms, immortalised, we feel our beloved in the church triumphant, might fitly dwell.

The Plumbago capensis is, in point of scent, negative; but with the loyalty of an enthusiastic partisan, I declare it to be on that very account the better fitted for the work-table, the sick-room, and the various circumstances of everyday in-door life. In common with many others, I suffer physically from the near neighbourhood in rooms of the Hyacinth, Lilac, Syringa, and many of the Lily tribe. The Plumbago ministers, but never oppresses—never "makes faint with too much sweet," those who permit its presence.

My little flower garden is not much more than 20 yards square, and my greenhouse correspondingly unpretending; but I could not over-rate the joy they give me. I was incited to real labour in the sweet service of flowers partly by the example of one "Filix fœmina," whose thoughts about Ferns used to appear from time to time in this Journal; and I believe I speak the sense of all lady gardeners, when I say that none who have not personally wooed flowers can guess how gratefully they respond, nor with what full measure soothing, elevating, and delighting their cultivators. Calmly faithful always, they brighten through life our gardens, and in death our graves.—C. A. G., *Ealing*.

SEEDLING VINES.

I have more than a hundred seedling Vines raised from last year's Grapes, which have been stopped several times since they were 7 feet long, and which are many of them as thick as a finger near the bottom. Are these not unusually strong for their age? Some of them look as if they would fruit next year, but I shall not trust them. A Vine of nine months from seed can hardly be a fruiting cane, one would think.—J. R. Pearson *Chilwell*.

[There can be no doubt that the Vines are of unusual growth for their age, but being so we see no reason why they should not be allowed to bear fruit, as they would be allowed at the same age if raised from eyes. We should be glad to hear from others on this point.—Eds.]

BOTTOM HEAT: ITS USE AND ABUSE.

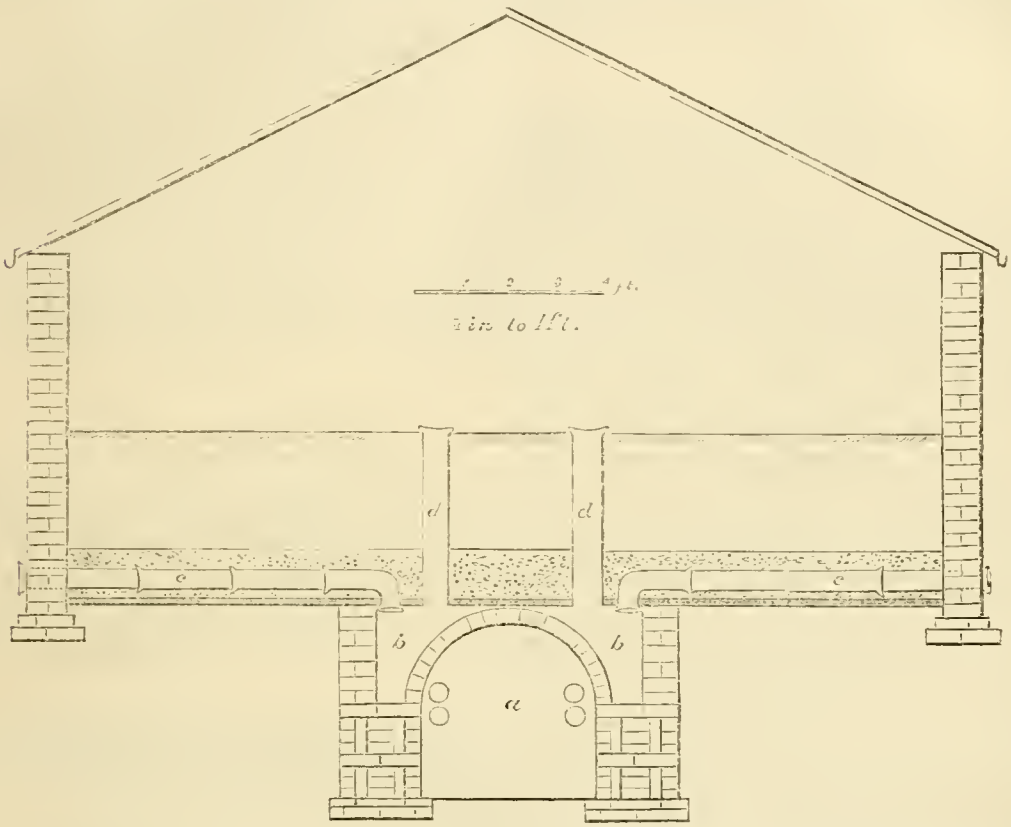
As a nurseryman, I have found bottom heat to be of the greatest use for all kinds of propagation, not only for stove, but even for hardy plants, a great many cuttings of which cannot be made to root without it. The best material for producing bottom heat for this purpose, and for forwarding young plants after they have been potted-off, is tan. It retains its heating power for a long time, and gives out just such a genial moist heat as all kinds of young plants, cuttings, and Orchids like. To keep up this genial heat, it is necessary to turn over the beds every six weeks or so, and add a little fresh tan at each turning.

The next best materials to tan are properly prepared dung and leaves; but they require so much management, and the heat is so changeable, that it is only adapted for a few plants, and requires the exercise of great care in looking after it. I now come to bottom heat

for large subjects, and for those growing in borders, such as tropical plants, Vines, &c., and it is in their case, when the heat has not been properly applied, that the abuse has been.

There has been a good deal of controversy lately about growing early Grapes without bottom heat; now, I maintain, that to have a good crop you cannot strike cuttings of the Vine without it, neither can you grow good early pot Vines without it; then why should Vines planted out in borders dislike it? My opinion is they do not, and for forcing Vines year after year very early it is positively wanted, otherwise the Vines will wear themselves out. My experience tells me that it is from the want of sufficient water that mischief arises from the use of bottom heat. I have been a victim owing to this cause, and it is scarcely possible to make men of ordinary practice believe the quantity of water that is wanted to supply a border where there is bottom heat, and in which the plants are planted out. I have now adopted the plan of measuring the water. I maintain that plants in-doors, and especially where the heat is greater, require quite as much water as out of doors; therefore I am giving 24 inches per annum, or about twelve gallons to the square foot, giving the greatest quantity when the Vines are in a growing state. I do not mean to say that even this would insure safety with badly applied bottom heat, such as from hot-water pipes amongst the drainage or in the border; there would be failures, for as regards extremes of heat and cold, and of dryness, we should be at the mercy of the stoker and waterer. In applying bottom heat to borders, it should be perfectly under control, and capable of being conveyed to the roots of the plants at will; also so that the heating medium can be extended by degrees to any distance required.

I have paid a good deal of attention to this subject, and I think the perfection of an early Grape house would be one built after the following plan:—It should have a span roof 18 feet or more wide, with arches



in the outer walls, so as to extend the borders from the inside when wanted, and also to let out the bottom heat to the outer border; in fact, to extend the roots to any distance wanted. There should be an arch in the centre, *a*, and extending the whole length of the border; the upper part pigeon-holed, to let up the heat from beneath the arch as quickly as possible to the chambers *b*, *b*, to be conveyed into the earthenware socket distributing pipes *c*, *c*, which should be laid quite level, otherwise the heat will not be regular. These pipes I recommend to be placed at intervals of 2 feet throughout the length of the house, on a concrete bottom, with 12 inches of brick rubbish over them. I have a great opinion of aërating borders for forced plants—in fact, for all kinds of plants; therefore, in a house 50 or 60 feet long I put three pipes on each side of the house, *d*, in communication with the heating chambers, so that air in winter can pass from the inside of the house amongst the roots of the plants; and when the borders are formed outside, provision can be made so that in summer they can be aërated from the outside. I think with this provision for bottom heat, air, and water, we shall hear no more of failures in forcing early Grapes.—John Standish, *Royal Nursery, Ascot, Berks.*

[The foregoing is one of the papers read at the Horticultural Congress at Manchester, but its publication has been delayed owing to the drawing not having been received with it.—Eds.]

WORK FOR THE WEEK.

KITCHEN GARDEN.

Trench, dig, and ridge-up every spare piece of ground whenever the weather will permit. This is particularly to be observed in gardens, the soil of which is of a clayey nature. It is time to think of forcing a little *Asparagus* to come in early. The principles applied to the forcing of Sea-kale, &c., are in the main applicable to Asparagus, except that it requires abundance of air when pushing through the soil. Let all *Carrots* be taken up and stored; likewise *Beet*. A few *Parsnips* for present use may be taken up; they will, however, keep well in the ground, and thus circumstanced they may have a coat of manure spread over them for the next crop, and be trenched-out as wanted. It is a good plan to cut the head of the Carrots completely off below the neck, thus checking their tendency to grow. They may then be placed in pits like Potatoes, raising a sharp ridge over them to throw off wet. Prepare a plot of ground at once for the earliest *Peas*, by thoroughly digging and manuring it; they may be sown now while the weather is favourable. A few Mazagan *Beans* may also be planted at the same time. *Sea-kale* should now be introduced into bottom heat for the earliest supply. Those who force it where it grows may apply some hot manure round a few pots. Endeavour as

far as circumstances will permit to have a good supply of *Parsley* under protection, for there is generally a large demand for this, and in the event of a severe winter it is difficult to save it by the ordinary protection of hoops and mats. *Lettuces* and *Cauliflowers* in frames should be freely exposed on all favourable occasions. Be careful also of any *Broccoli* fit for use, or which is turning-in.

FRUIT GARDEN.

Proceed with pruning fruit trees as soon as the leaves have fallen; let no work of this sort remain till spring, which will bring its own labours. Draw out all superfluous nails and shreds, in order to furnish in-door work in bad weather. Men do little good working out of doors under such circumstances, on the contrary, often much harm to themselves and to the land by closing and hardening its surface. Look over fruit and other stores frequently, in order to see that all is safe and sound. Standard trees which have been root-pruned must be firmly secured against injury from wind; also complete any root-pruning as soon as possible.

FLOWER GARDEN.

Examine pillar and trellis Roses, and if the weather is favourable see if the soil wants to be renewed, or the kinds changed. For choice sorts, holes should be made capable of containing three or four barrowloads of well-prepared soil. Turfy loam of good quality is the chief requisite; to this add a portion of rich rotten dung, and, if at hand, a little sandy peat or leaf mould. Crocuses may be planted whenever the weather is favourable; they like a deep, light, rich, sandy soil, but will thrive in any ordinary soil or situation. In planting, the bulbs should be covered from 2 to 3 inches with fine soil, and if an effective display during the first season be desired, plant thickly, not more than 2 inches apart. For edging borders and beds the Crocus is exceedingly useful, and where planted in lines along the margins of walks, or in clumps of from three to twelve or more bulbs, and allowed to remain in the ground for several years, they produce a very pretty effect. An excellent display may be made in the flower garden in March, by each bed having a broad edging of Crocuses, the colours being nicely arranged and contrasted. This may be secured without interfering with either the spring or summer occupants, for the bulbs may be planted close to the outside of the bed, where they will scarcely be in the way either in digging or in planting. Unless the bulbs become too numerous, and the leaves cover more space than desirable, they should not be disturbed, as they bloom more profusely when well established. Care, however, must be exercised to protect them from mice, which are exceedingly partial to Crocuses, especially in winter. For blooming in-doors, either in pots or anything used instead, strong bulbs should be selected, planting them in succession, and keeping the crowns slightly under the surface of the soil. Place them in any dark, cool situation for three or four weeks to allow of their making roots before exciting them into growth. If pots are used, and doubtless these are the best if not the most ornamental, employ rich sandy soil, and secure perfect drainage, for a liberal supply of water is required during the blooming period, and if the drainage is defective, the soil is apt to become sodden by injudicious watering. While the bulbs remain in a dark place very little water need be given—merely sufficient to keep the soil, moss, or sand from becoming too dry. When the roots have made some progress the crowns will make their appearance, and as soon as these are observed, remove the pots to the greenhouse, or, where this is not convenient, a cold frame or pit will answer perfectly. Crocuses will also succeed very well in a sitting-room window; all that is requisite is to allow them as much light and air as possible on mild days, giving water as may be necessary to keep the soil in a moist state. Chrysanthemums will now be approaching perfection in most places; therefore, take every means to preserve their beauty as long as possible. For some of the most tender kinds of Roses a little protection will soon be necessary. Also plant, as previously recommended, the Briar stocks for budding upon next year, for unless these are planted before spring they seldom furnish strong shoots for early budding. With weather like the present, all new work should be pushed forward as fast as possible; and if the soil has been properly prepared by draining where necessary, as should always be done before planting, there will be fewer failures from planting evergreens now, than if the work were delayed until March. Where, however, the ground to be planted is of a harsh clayey nature, and in an unkind state at present, it will, undoubtedly, be better to defer planting until spring. Roll walks and lawns occasionally, so as to keep them firm and smooth. There will be comparatively little to be done in the flower garden at present, except sweeping and cleaning, and any spare time will be well spent in going over the stock of plants in pits for next season's use, removing every decaying leaf, and where the surface soil has become green removing it and top-dressing with sandy loam. There is nothing so unfavourable to these plants at the present season as damp; therefore, every opportunity of admitting fresh air should be taken advantage of.

GREENHOUSE AND CONSERVATORY.

Next to Camellias, Azaleas are perhaps the most showy plants that can be had in bloom early in the season; and where there is a good stock to select from, some of the most forward plants should be placed in heat soon, moistening them overhead two or three times a-day. Unless, however, plants can be had which made their growth and set their buds early, they can hardly be expected to flower so finely as under more natural circumstances in spring, and unless the buds are plump there will be some danger of the plants starting into growth instead of into flower. Dutch bulbs should be largely cultivated where a fine display is required, and where hardy shrubs are forced for the decoration of the conservatory these should be ready for the purpose. Some of the early-blooming Rhododendrons require very little forcing to bring them into blossom at any time after this season; therefore where there is a good stock of these and Ghent and other hardy Azaleas well set for bloom, a portion of the plants should be placed in heat at intervals of about three weeks, and as they are very showy and last long in beauty they will be invaluable. These, together with Camellias, Heaths, Epacrises, Acacias, Daphnes, Gesneras, Cyclamens, Cytisuses, Chinese Primulas, Cinerarias, Mignonette, tree Violets, and other plants which bloom naturally in winter, will afford a good display.—W. KEANE.

DOINGS OF THE LAST WEEK.

FROST again and continuous, not much more severe than that on the 19th, but more prejudicial to everything tender, owing to the keen stormy wind that searched through and through all tender tissues. This has left little quite green in the flower garden except Calceolarias, and even these are showing signs of succumbing. Plants of Salvia fulgens which were a blaze of scarlet, have given way before the force of the biting wind. The clear atmosphere and biting air of the afternoon before the most severe night, caused us to make preparations to meet it in most departments, and, therefore, injury has been chiefly confined to that which we left to the frost.

KITCHEN GARDEN.

Endive.—A lot of the plain and curled-leaved was protected by placing a little rough hay over it; then litter, and some branches to keep it down. Part of this is covered for blanching, and part was covered a little to be uncovered on Friday and Saturday when milder weather came. Here one fact is worth noting. For years we have used Fraser's Broad-leaved Endive, and we like it much for its compact habit, large size, and hardiness. We had such a difficulty in saving seed, as the birds would find their way under our netting, and a few pence would pay for all we wanted, that for some time we obtained the seed along with other things, and always true and superior. Whether from the ground or some other cause, whilst some pieces of this Endive are as it used to be, other pieces have leaves like parasols, and such are chiefly planted near a wall where we intended them to stand through the winter. Now, as the leaves are so large and more likely to be influenced by frost, we shall blanch and use it early. The difference in position seems to make as great a difference as between a superior and an inferior variety.

Cauliflowers.—These we had covered up as a security against frost. To save this covering-up, and also to be safer, we cut a number of basketsful of the heads becoming rather too large for the parlour, so as to give a general house supply whilst they lasted. Many more with heads the size of one's doubled fist, and close and compact, we cut over with a good length of stem, and thrust the stems into an exhausted Mushroom bed in the shed, just damping the stems as well as the earth about them, and covering the heads in very severe weather. These will supply us for some time. A fine lot with heads less than the above, and heads just forming, we took up with balls, and set them in a deep earth-pit, watering the balls as we proceeded, and leaving a somewhat dry surface. These plants

were put in slanting, and thus the leaves served to a considerable extent as a protection. These we covered with old sashes and hurdles to throw off the wet. Our great enemies, however, to this valuable crop, which we have frequently had all the winter, are mice, rats, and even rabbits. When once they taste the crisp Cauliflower heads in winter they scorn traps and baits. The best defence has been a cordon or ring of fresh tar placed thinly all round the pit, and the dose repeated as the tar dries and loses its smell. Severe weather, when covering is necessary for days, is just the time for these intruders to invite themselves to a feast.

Lettuces.—Placed a little litter over forward ones out of doors, and took up a good many nearly full grown and half grown, and gave them a similar position to the Cauliflowers. Orchard houses are very suitable for such purposes, but we shall not use ours if we can avoid it, but will try to have early Lettuce from the latest house. We also stored a quantity of Endive. We should have no difficulty with it, using wattled and thatched hurdles for protection, but for mice and rats going underneath them. We have had a hundred Lettuces and Endives rendered useless in a night, the heart being nipped out, and the large outside leaves only left. A cat, a good friend to the gardener, is quite out of the question.

Broccoli.—As soon as time can be found, we shall lay these down a little so as to cover the stems more, placing the heads to the east or the north; the leaves thus act as a protection, and in bright sun after frost, the head, if formed, thaws more gradually, and thus escapes being injured. Dwarf-growing kinds are the better of having a little litter packed about the stems. In very severe weather a little litter or fern placed lightly over them often saves a crop, and no injury is done if the covering is removed in time.

Beetroot, Carrots, &c., are now as well within doors. We think of taking up a bed of small Dutch Carrots, and placing them in sand, for soups, and the last sowing but one will stand where it is for small Carrots. Beetroot is injured if frosted much.

Peas and Beans.—The clearing-off of Cauliflower, &c., has made room for wheeling, digging, trenching, and preparing for early Beans and Peas, if to be sown at this time. As a saving of room, we think of trying a piece again, though for many years we have sown under protection in spring, and planted out, and if anything gained in time of gathering over November sowings. If we sow now we shall red-lead the seeds, and scatter the ground afterwards with our burnt rubbish heaps.

Radishes.—These are crisp where protected with litter. Younger beds had a mat a foot above them in the coldest nights.

Celery.—Besides earthing-up, we protected with long litter overhead during the coldest two nights of the week. The wind of the last night rendered the protection almost unavailing. A few large branches are good for keeping the litter in its place. Clean straw is better than litter. Had we had plenty of litter, stubble, or even dry leaves, we would have finished banking up with them, and thus have rendered protection on the top less necessary. Celery is tolerably hardy, but if much frosted on the top it soon deteriorates the plant farther down, as then the damp affects it more, and damp, on the whole, is a greater enemy to full grown Celery than even frost. Hence, though we approve of beds of Celery, on the principle of saving room and labour, we are well aware that single rows can be so treated as to be much more secure from damp. One great cause of damping, too, is growing the Celery in a deep trench. This is very useful for receiving the manure, and for giving the conditions of quick growth provided by rich soil and moisture, but these conditions are not the best for long keeping. For the latter purpose, it is better that the trench, when supplied with the manurial matter, and dug and prepared, should be rather above than below the general ground level.

Prepared for taking up Sea-kale, Rhubarb, and Asparagus. Hoed among young Cabbages, Spinach, &c., as doing so helps to keep the frost out, and we shall draw a little earth to the most forward Cabbages to prevent their being moved by the wind. The earth also protects the stems up to the leaves.

Coleworts and Savoys, especially the Early Ulm Savoy, are now in fine condition. The first may want a little protection if the frost prove severe. What a change a little frost makes to the little Ulm Savoy. It becomes exceedingly sweet when well cooked. Need we say that all frozen vegetables should be placed in the coldest water before they are placed in hot or boiling water? From want of this simple precaution, we have on great occasions seen vegetables at table that, instead of being as tender as marrow and as green as when growing, were as yellow and tough as so many pieces of dressed sheepskin. Boiling frozen vegetables is next thing to giving the partakers a dose of poison.

FRUIT GARDEN.

The odour from the leaves of Apples and Pears, made like tinder by *the frost* of the 19th, is rendering the garden anything but pleasant. A handful of leaves, when slightly rubbed in the hand, becomes a mass of fine dust. We have no recollection of having seen such a result previously from one night's frost, and especially when more tender plants, as Pelargoniums, Calceolarias, &c., escaped with but little injury. We shall be glad when these leaves fall and are cleared off, but they seem to hang firmly to the trees. The frost of this week has brought down most of the Horse Chestnut and Sweet Chestnut leaves. The leaves of the Beech were shed partly a month ago—more the result of dryness and a high wind than of the cold; and partly owing to the copious crops of Beech-mast. We never saw such heavy crops of seeds, nor yet in general such perfect seeds. With nuts and Beech-mast, we may expect that squirrels, mice, and many birds will have a comfortable time this winter. The foliage of the Ash fell very generally after the severe mornings of this week, having withstood the first frosts well. Unlike the Hazel, the Thorn, the Holly, the Beech, &c., we never saw fewer seeds or keys on the Ash than this season.

Strawberries in Pots.—Removed a few of the most forward under protection, and the bulk out of doors, we protected from the severity of the frost by laying a little straw over them. It is astonishing what a small covering of litter keeps frost from injuring plants that are close to the ground, and thus within the reach of the heat in the ground, which is prevented escaping. As Saturday threatened to be a wet day, we put the Strawberry pots down on their sides, to prevent the soil becoming soaked, as it is sure to be wet enough now. Ere long we must contrive to take the plants under protection from wet and frost, as either is apt to be more prejudicial to them than to plants growing in the natural ground.

In the wet day of Saturday employed part of our available labour in washing and thoroughly cleaning the glass, woodwork, stages, &c., in a vinery, preparatory to filling it with plants; going through much the same process, in the way of prevention, as lately described for the Peach house. More hands would have been set to this work, but we were anxious to take up a number of bedding Pelargoniums, and store them in little room.

We looked over the *Grapes* in the late vinery for a damp berry here or there, and gave a little fire heat, chiefly during the day, to keep the air dry and in motion. The Vines in the orchard house have had discoloured by frost the foliage that came against the glass, but these leaves and some small laterals we shall let alone, as they will furnish some protection to the Grapes. We put a fire in an iron stove in the coldest nights, and it has kept the house safe and without a damped berry. Owing to the large squares of glass the wood is hard and well ripened. The Grapes will be useful to us in November and later. A good many border plants are in this house, but as little water as possible is given to them. These plants are in, because we were afraid that 10° of frost might mount up to 20°, and as they stood in a house where there was no stove, and therefore might have been injured. The other house when the leaves are more loose, will do for a lot of Strawberry pots. We put a few Chestnut leaves and some litter on Vine borders, to prevent their being very much cooled by the frost.

ORNAMENTAL DEPARTMENT.

Much of the work here has been incidentally alluded to. We merely finished putting in Calceolaria cuttings and filled some lights with Neapolitan Violets, lifting them with balls, nipping off every bit of runner, and placing them firmly near the glass in rich, light, fibrous loam, with some sweet rotten dung and leaf mould beneath. We were gathering Violets—viz., Russian, Czar, and Double Blue rather freely out of doors, but the frost has checked them, and even what flowers show have little or no scent. We are inclined, next week, to lift enough of these sorts to fill two or three lights of a frame or pit, so as to be more independent of the weather, as by clearing the vinery thoroughly we may make room for this purpose.

Scarcity of room prevents the faculty of scheming and contriving from ever getting comfortably moss-grown; but scarcity of room under glass, or out of doors, often greatly increases labour in moving, &c. There are but few common gardens

where the old adage can be carried out, "A place for everything, and everything in its place." The manager must contrive a place for many things, and many things in a place, and these shifted and changed very often, whilst a constant struggle must be maintained as to the space to be given to what ministers to the senses of sight and scent, and those which appeal chiefly to the, perhaps, more gross sensations of the palate. Hence a large garden, with a place for everything, and one crop of one thing chiefly in the one place at a time, may be managed with less labour than a much smaller garden with less conveniences, but where something of the same results are expected, and which can only be partly realised by a well-considered system of shifting and moving, which cannot be done without extra labour. Looked at in this light, a small place, though involving less outlay at first, may become much more expensive in yearly outlay than a larger one. Mere size of houses or ground, which some of our readers seem to look upon as everything, in reality forms only one item of comparison as to outlay, even so far as mere labour is concerned. The procuring of, and the proper attending to, rare and costly plants is quite another affair, in which keeping-up one acre may cost more than a dozen acres where no such tastes are indulged.

Depending chiefly for next year's display on young *Scarlet Pelargoniums*, now standing thickly in boxes—that is to say, with 1½ or 2 inches between plant and plant, we, nevertheless, on the afternoon before the sharpest night took up a good many old plants, and placed them in sheds, and out of doors covered over with litter. Some of the most tender of these, as variegated kinds, we potted separately in small pots, without any pruning, except removing a few of the larger leaves, and set in a little bottom heat to root quickly, whilst the tops are kept airy. Others with plain leaves we deprived of all the large leaves, all larger than a sixpence, at the points, and only shortened the larger shoots; these we packed like so many faggots—ten, twelve, or twenty in large pots and boxes; they will come in for centres and particular purposes when separated next season. Others, again, had their roots shortened, the heads pruned-in rather closely, looking when cut like so many small antlers of deer, every leaf removed, the cut points dipped in lime and charcoal, and packed as closely as they would go together. A good-sized pot, or a small box, would hold from a dozen to a score. These, watered, allowed to drain, then surfaced with dry soil, and placed anywhere secure from frost and damp, even though there be little light, will be all safe, and begin to break afresh about March. As soon as the young leaves show, the plants will want light; and when the leaves become crowded the plants must be separated, and fresh potted or planted. There are few of the Scarlet group which will not do well under this treatment. Every cottager who loves the bright scarlets, may thus preserve his plants in a dry cellar or garret in winter, have them singled out in his windows in spring, and planted out in May. By the plan first referred to—retaining most of the roots and most of the stems, but removing all the leaves, he may keep a dozen large plants in a pot in winter, but they need light, as in his window, or the stems will be apt to decay and shrivel. These plants, preserved in either way, generally bloom more freely early in the season than younger plants, but they do not continue to flower so well late in autumn, unless they receive a little encouragement from a little mulching in summer.—R. F.

COVENT GARDEN MARKET.—November 3.

The improvement noticed last week is barely kept up, but we may reasonably expect it to remain as it is, if it prove no better. Foreign Pears are not so freely offered as they were, but other produce is about the average. Potatoes are plentiful and good.

FRUIT.

	s.	d.		s.	d.
Apples ..... ½ sieve	1	0	to	1	6
Apricots ..... doz.	0	0		0	0
Cherries ..... lb.	0	0		0	0
Chestnuts .... bushel	8	0		14	0
Currants .... ½ sieve	0	0		0	0
Black ..... do.	0	0		0	0
Figs ..... doz.	2	0		4	0
Filbert's ..... lb.	0	6		1	0
Cobs ..... lb.	0	6		0	9
Gooseberries .. qoart	0	0		0	0
Grapes, Hothouse . lb.	2	0		5	0
Lemons 100	10	0		20	0
Melons ..... each	2	0		5	0
Mulberries .... quart	0	0	to	0	0
Nectarines ..... doz.	0	0		0	0
Oranges 100	8	0		14	0
Peaches ..... doz.	0	0		0	0
Pears, kitchen .. doz.	2	0		3	0
dessert .... doz.	3	0		5	0
Pine Apples ..... lb.	3	0		6	0
Plums ..... ½ sieve	3	6		5	0
Quinces ..... doz.	1	6		2	6
Raspberries ..... lb.	0	0		0	0
Strawberries .... lb.	0	0		0	0
Walnuts .....bushel	10	0		16	0
do. 100	1	0		2	0

VEGETABLES.

	s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0
Asparagus 100	0	0		0	0
Beans, Runner ½ sieve	3	0		4	0
Broad .... bushel	0	0		0	0
Beet, Red .....doz.	2	0		3	0
Broccoli .....bundle	1	0		0	0
Brns. Sprouts ½ sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0
Capsicums 100	2	0		2	6
Carrots .....bunch	0	4		0	8
Cauliflower ..... doz.	3	0		6	0
Celery ..... bundle	1	6		2	0
Coleworts ..doz. bchs.	2	0		4	0
Cucumbers .... each	0	6		1	0
pickling .... doz.	0	0		0	0
Endive ..... doz.	2	0		0	0
Fennel .....bunch	0	3		0	0
Garlic ..... lb.	0	8		0	0
Herbs ..... bunch	0	3		0	0
Horseradish ..bundle	3	0		5	0
Leeks ..... bunch	0	4	to	0	0
Lettuce ..... score	1	0		2	0
Mushrooms .... pottle	1	0		2	0
Mustd. & Cress, punnet	0	2		0	3
Onions ..... bushel	3	0		4	0
pickling .. quart	0	0		0	0
Parsley ..... sieve	3	0		0	0
Parsnips ..... doz.	0	9		1	0
Peas ..... quart	0	0		0	0
Potatoes .....bushel	2	6		4	0
Kidney .... ditto	3	6		4	0
Radishes doz. bunches	1	0		0	0
Rhubarb ..... bundle	0	0		0	0
Savoys ..... doz.	1	6		2	0
Sea-kale ..... basket	0	0		0	0
Shallots ..... lb.	0	0		0	6
Spinach ..... bushel	2	0		3	6
Tomatoes ..... doz.	0	9		1	6
Turnips ..... bunch	0	4		0	8
Veget. Marrows .. doz.	1	0		2	6

TRADE CATALOGUES RECEIVED.

J. Linden, Jardin Royal de Zoologie et d'Horticulture, Quartier Léopold, Brussels, and 52, Rue du Chaume, Ghent (Etablissement Horticole Ambroise Verschaffelt).—*Supplément et Extrait des Catalogues Généraux, No.* 83.

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*A Subscriber, Manchester*).—Keane's "In-door Gardening" and "Out-door Gardening." You can have the two volumes, post free, if you enclose forty postage stamps with your address. (*R. King*).—We recommend to you "Flower Garden Plans." It contains directions for arranging and cultivating flowers and shrubs. You can have the volume post free from our office if you enclose sixty-four postage stamps with your address.

Memorial (*T. S.*).—It would be very invidious to oppose the friends of any man testifying respect for his memory. You are wrong in observing that Loudon and Beaton had no memorials. The debts of the first were paid off by subscription, and a monument to his memory erected in the Kensal Green Cemetery. We and a few other friends erected a tombstone in Surbiton Churchyard to the memory of Mr. Beaton.

Woolly Excrescences on Apple Trees (*Glenageary*).—These, and the red-juiced insects beneath, are the American Blight. Apply to all the places spirit of turpentine and soft soap with a hard brush. In the winter any surviving insects will descend to the roots of the trees. Remove some of the earth from over the roots as the spring approaches, say in February, and soak around the stem with ammoniacal liquor from the gas works.

Laxton's Supreme Pea (*T. Parke*).—We cannot insert any more letters on the subject. The communications of "J. W." and Mr. Laxton place it in the true light. The Pea is good, but not a dwarf.

Vines on Back Wall of Vinery (*F. W.*).—No Vine will do well, as the back will be so much shaded. We have ripened Black Hamburghs, however, on such a wall by training the rods down it of the Vines planted in front, and that extended beyond the roof. You may have a straw-coloured Rose, but not a deep yellow.

Vines (*J. K. Boyd*).—We would advise you to put Mrs. Pince in your early house. The other is a first-rate Grape, but would do better in the Muscat house, and it hangs about as long as the Muscat. It is quite new, and was introduced since the last edition of the "Fruit Manual" was published.

Vine Leaves Blotched (*A. B.*).—As the roots are in an outside border, and the Grapes shank, we have no doubt that the roots are too cold at times, and too dry at others. If the border were covered to keep out frost and excessive wet, and mulched in summer to prevent excessive dryness, you would probably ward off the diseases of the fruit and leaves.

Caterpillar (*C. Marsden*).—Owing to our unavoidable absence, the caterpillar was dead, and shrunk up so much that we could not identify it.

Seedling Verbena (*S. Shepperson*).—It is too late in the season to form any opinion of your seedling Verbena; it appears to be of strong habit, but nothing can be said of the colour so late in the year.

Carnations and Picotees (*Picotee*).—The soil seems too poor; to three parts of such soil add one part dried cowdung, and one part vegetable mould, such as decayed leaves or the bottom of an old woodstack. We could detect no insect but a mite or Acarus, and that does no harm.

Seedling Apple (*W. Wilson*).—Unfortunately your seedling Apples, Lady Louisa Egerton, were quite musty from being packed in moss.

Roots Storing (*C. Ellis*).—Beetroot will keep well in a cellar or vault, if stored in dry sand in boxes, or placed in alternate layers with sand. All kinds of roots keep well in this manner.

Blanching Chicory (*Idem*).—It blanches readily when taken up, the tops cut off, and the roots placed rather thickly in a box in damp, but not wet, soil. If placed in a dark cellar it is not necessary to cover it, but if the place is not dark the roots must be covered. A temperature of 55° is necessary to have it crisp and tender, and not bitter. If grown in a cool cellar the leaves are tough and bitter. We have not found mice interfere with it; but if they do, trap them by means of a brick or figure-of-4 trap baited with a bean.

Rhopala corcovadensis Growing too Large (*Sigma*).—Next February we would cut the plant down to within a few inches of its base, and it will, no doubt, start strongly. The parts cut off may be made into cuttings, inserting them in sandy soil, and placing them in brisk bottom heat.

Melons Infested with Thrips (*A Disappointed Melon and Cucumber Grower*).—Densely fill the house with tobacco smoke, choosing a calm evening and shutting the house up closely, taking care to have the foliage of the plants dry, and to deliver the smoke cool. Fumigate on alternate evenings, and again as occasion requires. The house must have been kept much too warm and dry, if thrips attacked the plants as soon as the fruit were set. Keep a moister atmosphere, and well supply the plants with water at the roots. After fumigating, on the following day keep the house as close and moist as the weather will permit. The quantity of tobacco paper you name is quite inadequate to fill the house with smoke for the destruction of thrips, and it should be of the best quality. Fumigation is of no use unless the house be quite filled with smoke.

Making Mushroom Spawn (*Idem*).—If you have no experience in making it you had better purchase what you want from some seedsman. Making small quantities of it does not pay. No better time for making the spawn can be fixed on than the end of August and the month of September. Take, as materials, a barrow-load of cow dung, rather stiff, and two barrow-loads of horse-droppings, with a little short straw with them, and half a barrow-load of fibry loam. Mix these up into a stiff mortar-like substance until it is pretty well incorporated and looks like grafting-clay. Then make a frame either of iron or wood, say half-inch boards if the latter, and in four pieces—that is, two sides and two ends, enclosing a space of 9 inches long, 4½ inches wide, and 1½ inch deep. Then obtain a flat clean board, and a bucket of water, dip the frame in the water, place it on your board, fill it with the prepared dung, strike level with a spade or trowel, and turn out the brick on boards, to dry on its flat side. In a couple of days make two holes in the brick, but not going through it—say three-quarters of an inch in diameter, turn the bricks until they are tolerably dry, then into each hole push a piece of good spawn, and draw a little cowdung or clay over it to prevent its falling out. Next make up a slight hotbed of litter, on which build these bricks in open honeycomb or pigeou-hole fashion, and cover over with litter, so that these spawn bricks shall have a temperature of from 80° to 85°, and not more. As the spawn runs, the bricks must be examined, and as soon as they are filled with the gossamer-like white spawn threads, they should be removed, and kept in a dry place until wanted for use. Some bricks or pieces will be ready to remove before others.

Grafting Orange Trees (*A. B.*).—Having no heat and no means of giving any, we should advise your obtaining a plant of the Mandarin Orange, and, raising the latter to the height required, inarch the stock with it. This may be done at the end of March or beginning of April. We do not think you will be successful in any other way without heat.

Stocks for Apple and Pear Trees (*Idem*).—The French Paradise is the best stock for the Apple on light sandy soils, the situation being warm, otherwise the English Paradise stock is to be preferred. On the Pear stock Pears succeed in such a soil with rich surface-dressings, and so do those on the Quince. The free stock is to all intents the Crab, being the plants from the pips of cider Apples. Pear free stocks are from the pips of Pears, chiefly those used in the manufacture of perry.

Sphærogyne latifolia Leafless (*Amateur*).—We are unable to account for the plant losing its leaves. We would keep it rather dry during the winter, giving no more water than enough to keep the wood plump. From this time to February it should have a night temperature of 55°. In February increase the temperature to 60° at night, and to 70° or 75° by day, and if you have a hotbed affording a heat of 70° or 75°, plunge the pot in it to the rim, and give a slight sprinkling with water twice a-day until the plant begins to grow; then discontinue the sprinkling, but maintain a moist atmosphere by frequently sprinkling the paths, walls, &c. If the plant is straggling cut it down to within two or three eyes of the bottom, and put in the top. It will strike freely in sandy soil in bottom heat if covered with a glass, and will make a better plant than the old one. When the plant begins to grow shake it out of its pot, removing the ball considerably, and place it in a pot no larger than sufficient to contain the roots. Return it to the hotbed, or keep it in the warmest part of the house, shading from bright sun, and keeping close and moist. Be careful not to overwater; indeed, water sparingly until the roots are working freely in the fresh soil. Shift the plant into a larger pot as required, and it will, if all go well, be a good plant and require a large-sized pot by June. A compost of one-half fibrous loam, one-fourth sandy peat, and one-fourth leaf soil, with a free admixture of sand will grow it well. Good drainage is necessary. Allow plenty of room, and do not let the sun strike powerfully on the leaves whilst wet, or they will spot. A temperature of from 65° to 70° at night, and from 75° to 85° or 90° by day with sun and air, is suitable in summer.

Azaleas Losing their Leaves (*Buxton*).—We think your plants have a defective root-action, occasioned by imperfect drainage and want of water in summer, or they are kept too warm and dry. The shoot sent is perfectly healthy. Keep it cool and give an abundance of air. Do they not require repotting? The wood is weak. Azaleas often lose many leaves, some years much more than others, and some kinds have a tendency to do so, frequently starting into premature growth. We think it is frequently caused by keeping the plants too long in heat. The wood then ripens prematurely and the leaves fall.

Earth Round the Stem of Quince Stock (*F.*).—Pear trees on Quince stocks twenty years old, planted as directed in Rivers's "Miniature Fruit Garden," the stock covered up to, but not over, the junction of the bud with the stock, are still flourishing. It is quite probable that the upper roots from the stock may weaken the lower ones, but if so, the health of the trees has not suffered. It should be the aim of all good cultivators to encourage the surface-rooting of fruit trees. There are no "two sets of roots" formed by the Quince stock, the lower ones in various soils may be less active than those near the surface.

Monstrueuse Nectarine (*C. R.*).—Many years ago Mr. Rivers received it from France, but does not mention it in his catalogue because he does not cultivate it.

West Indian Seed (*T. G.*).—We cannot name plants from their seeds.

Cucumbers Gumming (*W. L.*).—We are unable to account for the gumming of the fruit; but attribute it to the richness of the soil. Most soils are sufficiently rich without an addition of one-third of rotten dung, especially for winter crops. We are strengthened in our opinion by the fact that your plants do not gum in spring, when the sap, from the increased sun heat and light, is better elaborated.

Show and Fancy Pelargoniums to Bloom in May (*W. A.*).—The plants, we presume, are in small pots, and near the glass in a cool airy house. If the shoots are more than 3 inches long, pinch out their points, and peg down or otherwise tie the shoots, but without stakes, so as to clothe the pot to its rim, disposing the shoots equally so as to form a compact plant. Shift the plants into larger pots in December, but if already in good-sized pots they may have their final shift in January or the beginning of February, when they should be put in their blooming-pots. The stopping may be continued as required until the beginning of March, but not afterwards. Liquid manure should be given from March.

Storing Dahlia Tubers (*M. T. M.*).—Take them up after the first frost, and put them in an airy place for a few days until dried; then store them in any dry and cool place from which frost is excluded. Dry sand is the best material to place them in.

Culture of Brunsvigias (*Rush*).—Keep them cool and dry during the winter, and in a light airy position. A greenhouse is sufficiently warm. Potting in March is probably the cause of the leaves turning yellow. To make them flower freely they should be kept pot-bound. Water should be freely given when the plants are growing, accompanied with considerable atmospheric moisture, and when a good growth is made give no more water than enough to keep the leaves from flagging. Never allow the soil to become dust dry.

Pelargonium for Conservatory Wall (*Idem*).—Bridesmaid is a good strong-growing sort; but Clipper, with large fine trusses and scarlet flowers, is better for flowering, though not so vigorous in growth.

Red Camellia for Conservatory Wall (*Idem*).—As you do not care for either rarity or novelty, but vigorous growth and brilliancy of bloom, Reticulata, a semi-double red, would suit; but Bealii, or Leeana superba, has a better flower.

Stopping Cinerarias (*Idem*).—You may delay the flowering of Cinerarias by pinching out the points of the flowering shoots when a few inches high. They ought to be pinched to within two or three joints of their base.

Anthurium Scherzerianum Potting (*W. E.*).—The pot should be filled one-third of its depth with crocks for drainage. For compost, use one-half fibrous brown peat, one-fourth turfy loam, torn in pieces by the hand and used rather rough, and one-fourth of old dry cow dung, with the addition of one-sixth of silver sand, and one-sixth of charcoal in pieces between the size of peas and hazel nuts, well mixed and carefully placed amongst the roots. The soil should be raised in the centre of the pot. The roots should be only just covered. The pots have a neat appearance when surfaced with live green moss. The night temperature should be from 60° to 65° in winter, and from 65° to 70° in summer; the day temperature may be from 70° to 75° in winter, and from 80° to 90° with sun and air in summer. On dull days an increase of from 5° to 10° on the night temperature is sufficient.

Trichinium Manglesii Culture (*Idem*).—The seed should be sown in April, and the plants forwarded in a hotbed until of good size, and then hardened-off and removed to a greenhouse to bloom. Sandy loam enriched with well-rotted manure, and one-third peat, will grow them well. The treatment does not differ from that of half-hardy annuals bloomed in a greenhouse.

Climbers, &c., with Scarlet or Orange Berries for South and West Walls (*J. W.*).—Cratægus pyracantha, Cotoneaster Simmonsii, C. microphylla; and Lonicera Periclymenum belgicum, flexuosa, and floribunda, have orange berries and sweet-scented flowers.

Salting Asparagus Beds (*J. L.*).—Now is not a good time to salt Asparagus beds. It is best applied in March. For a bed 22 feet by 4 feet, 14 lbs. of salt are a good and sufficient dressing.

Rose Stocks (*Idem*).—The Manetti stock is of Italian origin, deriving its name from Signor Manetti. It is not in any way allied to the English Briar. The Céline stock is a vigorous-growing kind.

Gladiolus Bulbs after Flowering (*H. J.*).—Gladiolus bulbs, taken up when the flowering is over, ought to be well dried, and kept in sand in a cool dry place until March; they should be kept secure from frost. Those planted in autumn will only need to have a mulching of partially decayed leaf mould. In stiff heavy soils, however, the bulbs are best taken up.

Removing Pampas Grass (*Idem*).—Large plants of Pampas Grass ought not to be removed until the end of March or the beginning of April, or about the time they are commencing to grow. Unless moved with good balls, and liberally supplied with water in dry weather, they will next year flower very weakly, or not at all.

Potting Belladonna Lilies (*Idem*). — The bulbs may be potted as soon as the growth is complete, or at the end of May or beginning of June. For single bulbs the pots must be small.

Iris pavonia Culture (*Idem*).—This may be treated like Hyacinths, plunged in ashes until new roots are formed, and then placed in a light airy greenhouse. The ashes of burnt sawdust are a good plunging material.

Hyacinths in Glasses (*Idem*).—These should remain in the dark until the roots reach the water, and have extended to a considerable length. A month or six weeks are usually required.

Plantain on Lawn (*W. P.*).—There is no mode of destroying so effectual

as eradicating the plants by scooping them out with a knife; a pinch of common salt inserted in the vacancy made renders the destruction doubly sure. If there are any bare places visible where the Plantain was, put in them a little fresh soil, and sprinkle a little seed of Suckling, Trifolium minus, in early spring.

Early Potato (*A Monthly Reader*).—Myatt's Prolific is a good early Potato, but all early Potatoes are firm and waxy until mature. The best of all Potatoes for mealiness is the Lapstone, but it is not a first but a second early.

Removing Fruit Trees (*Idem*).—If removed now with good roots, shaking off no more soil than is unavoidable, they will fruit next year, if furnished with fruit buds. After their removal, mulch the ground with 2 or 3 inches thick of littery manure to about a foot farther from the stem than the roots extend. Water next spring and summer in dry weather.

Wintering Coleuses (*Constant Subscriber*).—To winter them safely, the temperature should not be less than 45° at night, and no more water should be given than sufficient to keep the leaves from flagging. Light loam with a little leaf soil is the most suitable compost. The causes of your plants damping-off are most likely the atmosphere being too moist and cold, and too much water being given at the roots. Let them have the warmest and lightest part of the house. The best way to winter them is to have cuttings struck early in September, to pot these singly when rooted, and grow them in a cool stove with a temperature of 50° to 55° at night, and 60° to 65° by day, or more from sun heat. They should be kept near the glass. They will thus be kept slowly growing during the winter.

Boiler on the Surface (*S.*).—Your chief difficulty would be with the nearness of the water to the soil's surface; but you may do much by raising the pipes a little inside the houses to be heated. It is well to have the boiler sunk, but if the main flow pipes are only a little above the top of the boiler, the circulation will go on well enough. Keeping this in view, any boiler will do if the top of the boiler be lower than the heating pipes; a few inches will do. The most shallow boilers we have seen are such as are made by Mr. Hughes, of Bishop Stortford, for Mr. Rivers's brick Arnott stoves. These, 16 inches square, are slightly saddle-backed, the ends being 4 inches deep, and the centre 2 inches deep. These boilers could be set on the top of a furnace a foot deep, and with the heat to play over them, and thus, with a small ashpit, you could manage without going down to the water level. Nothing could be simpler. To heat 400 feet of piping, we would recommend a boiler 24 inches square, or longer by less in breadth. These must, however, be fed from below. To feed at the top, as you require, a cylinder boiler will be best, such as a cast-iron one 24 inches in height, and 20 inches in width. An ashpit of 9 inches would be required, but the top of the boiler might stand above the ground level if the pipes in the house rise a little rather than fall. Either of these plans would keep you above the 8-feet water level.

Various (*F. G.*).—There is no separate work on the culture of Succulents. The Echeverias are not difficult to winter if taken up early, and established before dull autumn weather sets in. It is the dull, damp weather we have in autumn that is so injurious to them, by causing succulency of growth. A poorer soil and drier atmosphere are what they require. Sonchus macranthus is only hardy in the south of England in warm situations and well-drained soil. Hardy shrubs of scarce kinds are best kept in summer with the pots sunk in the open ground, covering the rims about an inch deep. It is better than planting out, as pot plants are more safely removed in autumn.

Raising Fuchsias from Seed (*A Cottage Gardener*).—The pods should remain on the plant until they fall off, then place them on a shelf for a few days, and squeeze and wash the seeds from the pulp, spreading the seeds on paper thinly, and when dried, storing them in dry paper. In February or March sow the seeds in a compost of two parts sandy loam and one part leaf soil, making the soil very fine at top, and just covering the seeds with very fine soil. Give a gentle watering, and place the pot in a hotbed, keeping the soil just moist. When the seedlings are large enough to handle, pot them off singly, and return them to the hotbed. When established harden them off and remove them to a greenhouse. If you have no hotbed or greenhouse, the seed may be sown in a pot and placed in a warm window. Germination will be slower, but plants may thus be raised.

Standard Apple Trees (*Edmund Jenner*).—If you intend the trees to remain as standards, you must just shorten the branches about one-third, and make them grow bushy instead of lanky, and perhaps by the time they have made a good head they will have exhausted their excessive vigour. If you would convert them into pyramids, cut off their heads and cause shoots to be developed all over the stem, which, when they have made a good growth, may be shortened back to induce the production of laterals.

Indianarubber Plant Cutting down (*Wyeside*).—The plant which is too tall, may be cut down in February or March to within a foot of the soil, but we cannot guarantee that it will not bleed, though we do not apprehend any great injury to the plant from the bleeding. The parts cut off may be inserted as cuttings; and from eyes the plant may be propagated in brisk bottom heat.

Late Pears (*Idem*).—We have found the following good from a west wall, none of those you name being good except from trees in the open ground. Beurré d'Aremberg, Glou Morçeau, Thompson's, Joséphine de Malines, Bergamotte Esperen, Ne Plus Meuris, Winter Nelis, and Knight's Monarch, are all good, and in use from November to March. We cannot tell your Pear from the description and outline. Send us a specimen.

Names of Fruits (*E. W.*).—Both Pears are the Winter Bon Chrétien. The Apple is Golden Knsset. (*An Old Subscriber*).—The specimens are so small it is not easy to recognise them; but we think that No. 1 is Benrre de Rance, and 2, Knight's Monarch. (*S., Guernsey*).—Golden Reinette. (*N. F. H.*).—1, Conseiller de la Cour; 2, Nouveau Poiteau. (*Crofts*).—*Apples:* 1, Lewis's Incomparable; 2, Beauty of Kent; 3, Dumelow's Seedling; 4, Autumn Pearmain. *Pears:* 1, Comte de Flandre; 2, Doyenné Musqué; 3, Duchesse de Brabant. (*C. Marsden*).—The two Pears were so decayed we are sorry we could not identify them. (*Centurion*).—4, Ne Plus Meuris; 5, Beurré Diel; 6, very like Beurré d'Amboise; 7, is correct, it is also called Tardive de Toulouse; 9, certainly Nouveau Poiteau; 10, Adams's Pearmain; 11, Herefordshire Pearmain; 12, Brougham. We shall keep the others and endeavour to discover their names. (*J. T.*) —1, Vicar of Winkfield; 2, Beurré Diel. (*D. W. H., Crieff*).—1, Triomphe de Jodoigne; 2, Glou Morçeau; 3, Easter Beurré; 4, Duchesse d'Angoulême; 5, Beurré Nantais. (*W. B., North Wales*).—1, Conseiller de la Cour; 2, Beurré d'Aremberg; 3, Glou Morçeau; 4, Easter Beurré; 5, Broompark; 6, Beurré de Rance; 7, Passe Colmar; 8, Beurré Diel; 9, Van Mons Léon le Clerc; 10, Winter Nelis; 12, Hampden's Bergamot; 13, Golden Winter Pearmain. (*K. B. M.*).—*Pears:* 1, Nouveau Poiteau; 2, Belle de Noël; 3, Napoléon; 4, Van Mons Léon le Clerc; 6, Beurré Diel; 7, Old Colmar; 8, Arlequine Musqué; 9, Easter Beurré; 10, Chaumontel. *Apples:* 1, Margil; 3, Grange's Pearmain; 4, Golden Winter Pearmain; 6, Tower of Glamis; 7, Wormsley Pippin; 8, Golden Harvey; 9, Yorkshire Greening; 11, Franklin's Golden Pippin. (*G. W.*).—5, Kingston Black; 6, Golden Winter Pearmain; 8, Adams's Pearmain. The others appear to be all local sorts, with which we are unacquainted. Only two Pears arrived, and we can identify neither. (*G R. C. C.*).—1, Léon Grégoire; 2, Beurré Amande; 3, Bon Chrétien Fondante. The Apple is the Autumn Pearmain. (*C. A.*).—1, Thompson's; 2, Doyenné Gris; 3, Suffolk Thorn; 4, Beurré Diel; 5, Winter Nelis.

Names of Plants (*Northwich*).—1, only leaves; 2, Pernettya mucronata; 3, Cassiope ericoides. (*J. Hill, Queenstown*).—1, Æschynanthus purpurascens; 2, Begonia maculata, also known as B. argyrostigma; 3, Begonia incarnata, also known as B. insignis; 4, Bouvardia splendens; 5, Eccremocarpus scaber, otherwise Calampelis scabra. (*G. W. A.*).—One of the hybrid Veronicas near to V. Andersonii. Give greenhouse treatment. (*J. J. D.*).—A Canna, apparently one of the hybrids now used for subtropical bedding, but we cannot say which from the specimen sent us. Most probably the rhizomes will bear the winter, if mild, uninjured, especially if covered with litter. (*M. H.*).—1, Aster Novi-Belgii; 2, A. Novæ-Angliæ; 3, A. laxus; 4, A. cyaneus.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 2nd.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 27	29.732	29.682	42	22	47	48	N.	.00	Very fine and frosty; clear and cold; fine at night.
Thurs. 28	29.775	29.737	45	37	44	47	N W.	.00	Sharp frost; very fine; clear, cold wind.
Fri.... 29	30.132	30.064	51	28	45	46	N.	.06	Fine; very fine, cold wind; overcast.
Sat.... 30	30.076	29.831	52	32	45	46	N.	.02	Densely overcast; slight rain; densely overcast.
Sun... 31	30.172	30.150	50	36	47	46	W.	.00	Densely overcast; foggy; dull, and very heavy.
Mon... 1	30.237	30.196	54	41	48	46	W.	.00	Cloudy, but fine; overcast; clear and fine, overcast.
Tues.. 2	30.232	29.856	58	43	50	47	W.	.00	Densely overcast; very fine; overcast, mild.
Mean..	30.051	29.931	50.29	34.14	46.57	46.57	...	0.08	

POULTRY, BEE, AND PIGEON CHRONICLE.

A BUNCH OF FEATHERS.

Rather more than six years ago I began poultry-keeping, moved by the pleasant articles with which your Journal abounds. At the same time you courteously published some strictures of mine on certain improprieties connected with the entrance of a few exhibitors and others to the Birmingham Poultry Show before the general public were admitted, and before the judging was over. It is a coincidence, as I am giving up poultry-keeping from want of time and room, but not from my interest in poultry and in poultry-keepers waning, that in my own neighbourhood a similar impropriety should have called forth a like condemnation. Your Journal has already expressed disapprobation of such proceedings. This is enough. Let bygones be bygones, and let us hope that the offenders will amend.

Your correspondent, signing himself "Justice," in the Journal of October 21st, opens several questions, however, with regard to poultry shows and their committees generally, which must not be passed by if poultry-showing is to be the amusement of ladies and gentlemen who are disposed to use the shows for other purposes than pecuniary gain.

During the six years which have passed since I began poultry-keeping as an enthusiast, I have gone through the different stages of exhibitor, amateur dealer, experimentalist in food and housing, and in breeding for feather and for flesh. I have read nearly all that has been written in that time about poultry, and I have listened to much that has been said. I have seen the Poultry Club rise and fall, the National Poultry Company and others of its kind blown away like bundles of feathers. Speculators, who have gone in for poultry farms and poultry appliances and machinery, which almost offered to supersede Nature, have one after the other passed away. Large breeders for food and for fancy, of wealth and title, have one after another ceased to be, and changes innumerable have, in the ordinary course of things, from time to time taken place. Other men have seen the same, and, perhaps, more than I have; but many have not noted these things, and, if they have noted them, have not brought their conclusions to light. It is in the hope that I may stir up others more capable than myself to the examination of questions connected with poultry-keeping that I write this preliminary letter. I hope to be permitted to follow it by others dealing with the questions of poultry shows, the breeding for fancy and for food—the latter a point so important, that every experience which can be given is of inestimable value, whilst it is all to be desired that statements should not be allowed to go forth which are fallacious, and would be necessarily detrimental to the one great point to be kept in view—namely, the rearing of poultry on farms as an important part of the food of the people —Egomet.

OUR POULTRY SHOWS.

Under this head appeared an article in "our Journal" of October 21st, signed "Justice," in which he complains of one or two fancied evils, "which, if unchecked, must ultimately destroy much of the popularity of our poultry shows." The first is, "secretaries and committee even competing for prizes;" and the second is, "local exhibitors being allowed to compete with the same birds for both local and general cups."

"Justice" does not state in what consists the first evil, from which I infer it must be so patent to his imagination that he thinks it must be perfectly obvious to others. I cannot see any evil in the practice, but only good. Why, who are the secretaries and committeemen of our shows? Enthusiastic fanciers, who are willing to spend and be spent for the benefit of their particular hobby—men who, being for the time semi-lunatics, on their first committee-meeting dip their hands deep into their pockets, and at their last meeting repeat the operation, only sometimes a little deeper than before. They are men who will give much valuable time, make great sacrifices, go through a deal of hard work, which, from the time of receiving the first to despatching the last package of birds, is work. They are men who will leave their drawing-room to blister their fingers with boxes and hampers, and pens, and cages, and rope, and string, and canvas, and packing needles—aye, and I have even seen a lady writing out "copy" of a heavy catalogue for the printer; folding and addressing the early editions, that expectant exhibitors might know their success by breakfast time next morning; and then winding up the labours of a severely exhausting week by plying her packing needle in a way which has evoked many a letter of thanks from rough honest men, whose birds have returned to them so tenderly cared for. Our secretaries and committeemen are men whose constant study it is to give to all a "clear stage and no favour," to effect which, and to avoid the very appearance of evil, is their greatest anxiety. They are men who ought to be above suspicion, or they are not fit for their office.

And why all this labour and expense? Is it simply to bring birds from a distance to compete for their prizes? By no means. It is primarily to encourage the breeding of various races and the development of their beauties—to add their little effort to the other little efforts which are made throughout the country, and without which there would be no shows. But it is also that they may bring a great show home to their own doors, where they may measure with their own eyes the produce of their own yards, their own aviaries, their own hutches, their own kennels, against those of their friends afar off. And on what tangible grounds can anyone say Nay? I ask "Justice" in the name of everything that is chivalric and honourable, Why not?

Nor can I see any evil likely to result from the second complaint. Supposing a society, in addition to an open cup, should offer a local cup. I think I am right in saying that in nearly every instance this is done on the assumption that the local man has but a small chance with the outside competitor; but it affords him an opportunity of competing among his fellows for a trophy which the foreign exhibitor cannot touch—it is far beyond his reach by being made local. But because there is an additional incentive in the shape of a special reward to him who comes off best in this unequal fight, that should not debar the local man from aiming at the great prize of all. And if by virtue of his superior prowess he should in the race beat the whole field, who could begrudge him his double honours? I am quite open to admit that in offering a local cup the contingency I have supposed is not contemplated and will not often occur; in fact, its frequent repetition would defeat its original intention, since it would demonstrate that those at home were on an equality with those abroad, and hence the local cup would be abolished. So long, however, as a society chooses to offer a special reward to him within its limits who can deal the hardest blows at the expected foe, I cannot see why he should lose that reward because he absolutely fairly vanquishes his enemy and wins his armour.

"Justice" has nothing to do with what Long Sutton or any other society chooses to offer its members. It offers a prize open to the world, for which "Justice" can compete if he think fit, and the presence or absence of a local incentive will not impoverish him, or militate against his chance of the prize for which he enters. He has nothing to do with the local prize any more than if it were not in the schedule at all, but was subsequently presented to the most successful local exhibitor as an acknowledgment for the way in which he upheld the character of the district over which the jurisdiction of the society of which he is a member extends.—Aliquis.

I cannot agree with your correspondent "Justice," that secretaries and committeemen should not exhibit poultry at their own shows. Where a committee is composed, as it always should be, of honourable men, they will always appoint honourable judges. Now these gentlemen are introduced to a show room with a competent man, or men, to attend upon them—*i. e.*, to handle birds, when they wish it, skilfully and with care, and to attach the prize cards to the pens bearing the numbers written down by them. The judges should, and I have no doubt do, see that these cards are attached strictly in accordance with their given judgment. Thus managed, the office of a poultry judge is a very simple and straightforward, though often a somewhat difficult, task. There is nothing to indicate from whence came the birds before the judges, or to whom they belong, and they have no right even to guess at these irrelevant questions. Under these circumstances I see no impropriety in committeemen exhibiting, nor ought any unfairness or injustice to arise from the fact of their doing so.

But as regards the system of "local exhibitors being allowed to compete with the same birds for both local and general prizes," I fully concur with "Justice." In fact I would contend, that if the legitimate object of poultry shows is to encourage improvement and friendly emulation in the breeding and rearing of every species of domestic fowl, then "local" prizegiving is highly injudicious, and suicidal to the best intentions of the show. Instead of localising competition I would rather see it become international.

In cases where local prizes are offered to local specimens, I think with "Justice" that the "same birds" should not be allowed to compete for another cup also. It is calculated to induce feelings of distrust and doubt in the minds of absent exhibitors, and is therefore prejudicial to the success of poultry shows.

I venture to send you these few lines because I think the expressed sentiments of poultry-fanciers on these subjects calculated to improve and raise the general tone and management of our exhibitions throughout the kingdom.—Gloucestershire.

Death of Mr. J. J. Fox, of Devizes.—We are sorry to have to record the death of this gentleman, which took place suddenly on Wednesday last, October 27th, at the age of sixty-five. Mr. Fox was a most kindly benevolent man; he was an ardent horticulturist, and a keen poultry and Pigeon fancier. Some years since, he wrote a good deal in this Journal about his favourite fowls—Malays. His finely-chiselled and benevolent face was well known at poultry shows. Mr. Fox was also devoted to the microscope, and a very frequent correspondent of "Science Gossip." Indeed, he seemed to love everything that God had made. Mr. Fox had succeeded in life, and passed his latter years in following his favourite pursuits. In his quiet room looking into his garden, with a microscope in the window, and his loved books around him—among them always

the last week's "Journal"—he presented the picture of a man who knew how to spend his hours of retirement happily. Mr. Fox was a member of the Society of Friends, and was much respected by men of all creeds in Devizes as a good Christian man.—WILTSHIRE RECTOR.

PRIZES FOR FRENCH VARIETIES OF FOWLS.

As a breeder of Crêve-Cœurs, I think they and the French varieties generally (considering their valuable qualities as layers, birds for table, or ornamental poultry), are not placed in a sufficiently honourable position by many gentlemen who undertake the management of poultry exhibitions. In fact, they are frequently left entirely without a class. For instance, I have written for and received the following catalogues of shows selected from your list—Chester, Bradford, Oakham, and Leeds, and find no class for any French variety in any one of them. Now, considering the competition we meet where classes are allotted to us, and the large and increasing number of breeders interested in these fine birds, I think we ought to have more opportunities to learn whether our favourites are as good specimens as those belonging to other exhibitors.—BLACKBIRD.

POULTRY-KEEPING IN AMERICA.

IN poultry management there seem to be some particulars on which light is needed on your side of the water as well as here. For the first time in ten years I have this season been troubled by feather-eating fowls, but find no remedy. I had some experience a few years since with a disease on the legs of fowls, appearing like an eruption, and occasioning a rough warty appearance. I thought it contagious. I let a neighbour have a broody hen thus affected to sit, and the chickens hatched became affected also, nothing of the kind having been seen amongst his fowls before. In January, 1868, I received three Houdans from Messrs. Baily & Son; they were perfectly smooth-legged, and are so still, as were all their chickens of last year (more than fifty), but this year I have noticed three with a slight tendency to feather-leg. One was hatched early in spring.

Afterwards I received a pair of Houdans from Mr. J. C. Cooper, Limerick; all their produce are smooth-legged, but in a brood hatched in August from the Cooper hen by the Baily cock there were two showing feather-legs. Some two or three feather-legged fowls have run with the Baily cock occasionally. Must I believe this to be the cause of his producing these feather-legged chickens? I am told that a slight feathering on the leg is often seen amongst Houdans, even imported ones; is there anything in their original make to cause it, or that they have picked up and incorporated in their constitution so that it crops out occasionally?

In January last I noticed a fine large pullet, a cross between a White Dorking and a Brahma, on her nest apparently dead. She had not laid, and I supposed her death was caused by her efforts to do so. I was very sorry to lose her, as there were four sisters, much alike, all laying. I took her out some ten rods into the woods, poised her on my hand, and tossed her as far as I could; the snow was about a foot deep, and hard on the top, and she came down on it heavily, and lay as she struck, feet upwards. My thought on hearing her strike was, if there is an egg there it is surely broken. About ten days afterwards I saw one of these crossbred pullets on a nest, and when I came away left the door open, so that the fowls might come out. After a time I noticed the three pullets outside, and went for the egg as the weather was rather chilly, and was astonished to find the first-named bird on the nest, alive, well, and laying. This brought to mind directly the big egg I had found about the time of the supposed death of this pullet. I do not remember the dimensions, but it measured somewhere about 8½ inches round one way; it was in the last-named nest, and it seems probable laid by this pullet after her snow bath. Was not this the best treatment, aside from the roughness, that could have been adopted? She was rather shy for a long time, but is all right, and has laid many a large egg since.—PEGAN, *Wellesley, Massachusets, U.S.A.*

[We are more than pleased with the communication of our transatlantic reader, and wish heartily there were a more frequent interchange. We have advocated it for many years, and shall be indeed glad if this letter should prove the harbinger of a continued correspondence. If we can name no cure for the plague you speak of, we can say whether we suffer from the same; if we do, we can state all the symptoms.

We have also suffered from feather-eaters for the second time this year. We have large pens opening on an orchard. We have Buff Cochins, Grouse Cochins, Houdans, Spanish, Crêve-Cœurs, and Brahmas. All are fed alike, and nothing is neglected that is supposed to be good for their health. First Houdans took to feather-eating; then Spanish. They did not do it by halves, they positively ate part of the fowls; with the exception of the principal feathers of the tail and wings, none remained. The birds were in perfect condition, and fat; the hens laid. The first experiment was to reduce the food as much as might be consistent with health; they were also supplied with lettuces, and spots of earth were turned up daily that they might search the mould—useless. Next, the fowls were rubbed all over with the bitterest ointment a chemist could make. The fowls bit at it, shook their heads, seemed as though they would try to spit it out. Then they went up to a bird where a bare and almost raw spot peeped temptingly through the ointment, looked at it, and withdrew, and came again, and at last, plucking up courage, went boldly at the tempting morsel. This was a failure. Next we put them in confinement, two or three in a small cage; they did not eat the feathers so much as when at liberty, but they still ate them.

The Spanish carried on the filthy practice worse than the Houdans. In neither case, with the exception of the tail feathers, did they pick the flesh. It was the feather only they wanted, and as fast as stubs appeared for forming the new feather, they picked them out.

The disposition of the pens where the propensity manifested itself was as follows:—In one pen were Buff Cochins; next, Light Brahmas; next, Grouse Cochins; next, Houdans; next, Spanish; then Crêve-Cœur. The two middle pens, Houdans and the Spanish, were desperate feather-eaters. They seem to delight in it most in very hot weather, and are, we think, disposed to renounce their evil ways now winter is drawing nigh. They never had the habit till last year, and we are without a remedy for it.

We have not told any of the hundred and one experiments we have tried in the way of withholding or changing food; we have not mentioned the numberless nostrums and certain cures recommended to us. We consulted our medical man, and succeeded in making him take an interest in the case. We even condescended to ask the old women. They said, "They knowed nutthin about it. Their chickens never did nutthin of the kind." No one could help us, no one did help us. We have heard of it from all quarters. The most experienced say it is a new thing, and they have no remedy for it. We have noticed all our lives that about the moulting time, and in certain condition of body, the moment a feather falls from a hen, another picks it up and swallows it. We have known one become a feather-eater, but she was always detected, and removed. We have never known anything like this year's experience. We have never known the cock become a convert to the filthy habit.

The warty appearance of the legs is common in old Cochins. It is seen sometimes in chickens, but seldom. In the latter it is to be cured with compound sulphur ointment; in the old birds we think it incurable. We have never seen it in any breed but the Cochin and the La Flèche. A Cochin is old and worn out at three years, and it is at that age this sort of "gallinaceous elephantiasis" appears.

We can say nothing to the appearance of feathers the second year on the legs of the Houdan. It is a very common occurrence to find a tendency to feathered legs in many breeds. It is very common in the Dorking. We are not prepared to say whether the feathered-legged hens caused others to have feathered-legged chickens, but there are strange things of this sort. We can vouch for the truth of the following:—A person well known to us had a yard of Spanish fowls at a very lonely spot far from any house. There was no other breed, with the exception of one hen, a Chittagong, kept for her valuable properties as a mother. She had a reddish-brown plumage. After a time many of the Spanish came with a brown, others with a red saddle. Our friend, vexed with such a result, consulted those whom he thought calculated to give him a good opinion. One, a person of much experience, but living very many miles from the place where the fowls were kept, at once asked the question, "Have you a hen of any other colour running with them?" Our friend said, "Yes." "Well," said he, "remove her, and you will remove the evil." It was so. There are curious facts to be noted in poultry, and if they can be explained, so much the better. We have at the present time a Spanish hen which

has moulted nearly white, one of twenty, all the rest blac k We know this is common, but we cannot explain it.

We are not prepared to say your treatment of the hen was the right one; nor do we believe in a recurrence of the same good fortune if you repeated the treatment. In our opinion a feather dipped in oil, and introduced till the passage was entirely lubricated, would be quite as effectual, and less dangerous. We once threw away a Spanish hen for dead. She was thrown on a dunghill, and partly covered. She was alive and better the next morning, lived to make one of a cup pen, and was sold for £10.]

AUCTION AT THE BIRMINGHAM POULTRY EXHIBITION.

I BEG to indorse all that Mr. Henry Leach says with regard to the day fixed for the sale by auction of birds at Bingley Hall. Monday is a most inconvenient, not to say impolitic, day for the sale. Many cannot, and I am thankful to say if they could will not, travel on Sunday, and consequently are entirely prevented from being present at the sale; and if they do manage to arrive in Birmingham by eleven or twelve o'clock, what time and opportunity are afforded them of looking over the birds? None whatever; and no one really caring for good poultry will "buy a pig in a poke" in this manner. No. Let the Council fix on Tuesday as their day of sale; then every one will have the Monday for the inspection of the birds, all will be able to attend the sale in person or by proxy, the competition must necessarily be greater, and funds accrue to the Society. Should answer be made that many are in Birmingham on the Monday who do not remain till Tuesday, and therefore would not be at the sale on the latter day, I would say, Let them entrust their commissions to the obliging auctioneer, who will faithfully execute them.—A. K. C.

PERMIT me to endorse the opinion expressed by Mr. H. P. Leach, that the time and day fixed by the Birmingham Poultry Show Committee for the sale of birds are most inconvenient to persons anxious to attend, and living some miles from that town. Many, I think, like myself and Mr. Leach, may not wish to be in Birmingham on the Saturday, or to be compelled to travel there by rail on the Sunday. Thus, there must be persons who will be prevented from attending this sale by these circumstances only, who would otherwise be present at it. This appears to me a positive injury to the sale, and the owners of birds, as well as a source of disappointment to likely purchasers.

If others think with Mr. Leach and myself, I hope they will express their opinion in your columns, and thereby endeavour to obtain one day's postponement of the sale by the Birmingham Committee.—GLOUCESTERSHIRE.

THERE can be no doubt that the proposed alteration of time for holding the poultry sale at Bingley Hall would be hailed with great satisfaction by a large number of exhibitors residing, like myself, at a distance, and who cannot under the present arrangements be present at that sale. There are many whose commercial engagements prevent their leaving home on the Saturday, and who would conscientiously object to travelling on Sunday; and even where these obstacles do not exist, there are the expense and the inconvenience of being in lodgings up to the morning, which quite preclude their attendance at the sale. As for those who, like myself, have official duties to fulfil on the Sunday, it is quite useless to entertain a wish to attend the sale, as there is no possibility of reaching Birmingham on the Monday till the afternoon. Let the sale take place, say at 4 o'clock on the Monday afternoon, or on the Tuesday morning, and it would afford all who are now unavoidably excluded, a fair opportunity of being present.—J. ELLIS, *Bracknell, Berks.*

SPURIOUS HONEY—STRAW VERSUS WOODEN HIVES.

I THINK all agree that the practice of feeding bees with sugar for the purpose of filling supers, and afterwards selling or exhibiting them as supers of honey, is dishonest, and should be discouraged. That Mr. Pettigrew should have mentioned the class of hive, from which the supers he detected as filled only with sugar and water had been taken, is very unfortunate, as I quite agree with "A LANARKSHIRE BEE-KEEPER" "that it is much better to let sleeping dogs lie," especially when their bark is so discordant; but that Mr. Pettigrew cannot detect sugar from honey after tasting it, is ridiculous. I may remark that he this year took to the heather upwards of fifty hives, and that, I believe, he secures on an average about 500 lbs. of honey annually, and this is done without intentionally killing a bee. He has this year filled five glass supers weighing 13 lbs. each, and one straw super weighing 22 lbs. On returning from the moors I assisted him to weigh three hives; one a swarm of 1868, weighed 70 lbs.; the first swarm from it this year weighed 80 lbs., and the second swarm 40 lbs., making 190 lbs. from one hive this season; this, of course, is exceptionally good for this locality. I myself am an enthusiast in bees, and living near Mr. Pettigrew, these facts came to my knowledge, and I merely mention them that those of your readers who are not fortunate in knowing Mr. Pettigrew, may be assured that he is no "novice passing his opinion on honey."

Respecting the Stewarton hives, they are, probably, as good as any other made of wood. I commenced with five made on Mr. Tegetmeier's plan, and I do not think there are any better; but I soon found that the fault lay not in the construction of the hive, but in the material it was made of. I found that in cold weather the wood on the inside of the hive was covered with condensed moisture; the bar frames, to a great extent, kept the combs from contact with it, still the stagnant moisture caused them to mould and discolour. I afterwards adopted a remedy which your readers using wooden hives would do well to follow; I obtained some boiler felt—a very excellent non-conductor of heat, and covered the outside of the hive with it; any other non-conductor which will prevent the hive from being influenced by the temperature of the outside atmosphere, will do. This covering is as essential to keep out the heat in summer as the cold in winter.

Now, we Manchester men prefer the article which gives the largest and best result with the least outlay of cost and trouble, and I found that with good straw hives I could do almost everything which could be done with the most elaborate, and that the bees did much better in them than in the unprotected wood. Now, these straw hives cost me about 3*s.* each; they are 16 inches wide and 12 inches deep, and are patterns of good workmanship. I have them made with a crown of wood 6 inches in diameter, worked in the straw, with a 3-inch hole bored in the centre of it. This is fitted with a plug or bung, and on this top I can set a super made of glass, straw, or wood, taking care if it is of glass or wood, to wrap it carefully round with woollen material.

I do not think any of your readers will be led away with the "LANARKSHIRE BEE-KEEPER'S" assertion, that "doubtless the shape and material have very much to do with the quality of honey collected," and they will find that whether the super is of glass, wood, or straw, the honey stored in it will be precisely the same; but as regards quantity, the bees prefer the straw, next the wood, and last of all the glass, though the appearance of the glass is prettiest.

I also do not agree with "LANARKSHIRE BEE-KEEPER'S" assertion that "a good judge of honey knows honey and comb without tasting it." The honey is collected from so many kinds of flowers, the colour and consistency varying in each case, that it is impossible to tell by the eye alone. Also, unlike his, my experience shows me that even in the height of the honey harvest, my bees will take either syrup made of sugar and water, or honey, if placed where they can get to it, in preference to collecting it from the flowers in the fields; indeed, I always assist my new swarms by giving them a couple of pounds of lump sugar dissolved in a pint of water. By this means they make comb faster than if compelled to seek their food, thus providing the queen with cells in which to deposit her eggs, which would otherwise be lost, and getting out a lot of brood earlier than they otherwise would do.

In conclusion, the stronger the stock, the more workers there are, the more honey there will be collected; consequently do not use small hives: and the material best adapted to resist changes of temperature is the best to make them of; this, in my opinion, is straw. I place a small cushion filled with hay on the top to cover the wooden crown, and thatch the whole neatly with straw, thus keeping off the wet, and giving my apiary a neat appearance.—A MANCHESTER MAN.

CONFLICTING OPINIONS ON BEE-KEEPING.

I AM anxious to begin bee-keeping, but am greatly puzzled by the conflicting advice given in books. In the *Times* "Bee-keeper," the author says, that bee-houses are a positive necessity, no matter how ill-constructed they are so long as you have them.

Now in "Bee-keeping for the Many," page 5, and in many other places, it is said that on no account are you to put hives into bee-houses, but to keep them out on a stand with a milk pan over them to throw off the wet. Will you kindly give me the benefit of your experience on this point, and let me have an answer in your next number? Also, as to bee hives; the *Times* "Bee-keeper" highly recommends the Ayrshire box hive, which consists of several boxes, but says they warp if exposed to the sun and rain. Do you think I could keep them without a house? An answer to these questions will greatly oblige your subscriber.—APIS.

[Dr. Cumming, the so-called "*Times* Bee-master," is no authority on the subject of bees, and it is therefore by no means surprising to find him wrong in his statements. So far from bee-houses being a positive necessity, their disadvantages are considered by many to outweigh their advantages. If hives with fixed combs are alone used, a closed bee-house will effectually shelter them from the weather, and from extreme cold in winter, but care should be taken to make the entrances as dissimilar in appearance, and place them as far apart as possible, or great loss of life will occur in the spring from workers mistaking their hives, and more serious consequences may follow similar mistakes on the part of young queens returning from their wedding flights in summer. Where the moveable comb system is in use, however, almost the only possible, certainly the only convenient, bee-house is, either a verandah or a lean-to shed erected against a wall with sufficient room to operate behind the hives, and closed at the ends, but open in front, or covered only with pheasant wire, in which must be left good-sized semi-circular orifices in front of each hive. We ourselves have no bee-house, but cover each hive with a light wooden outer case and roof such as delineated in page 18 of the last edition of "Bee-keeping for the Many." The Stewarton hive is a good one, but requires the protection either of a bee-house or an outside case.]

OUR LETTER BOX.

FOWLS DYING (*W. L.*).—The feeding of your fowls is good enough for any poultry, and a yard full of stable dung has always been held to be the great desideratum for the health and well-doing of fowls. Where a number of previously healthy birds are taken with the same symptoms, and die of the disease of which these are the evidence, we look about for the cause. Are boot-tops cleaned there? and is the water thrown out where the fowls can get at it? This may be the cause, if they drink it. Are their crops full and hard when they are taken? If so, they are crop-bound, or there is a stoppage somewhere. It is from something that is picked up and eaten, or something that is drunk. If there were any general cause, its effects would be general, and all the birds would suffer; but here it is evidently something that is picked up, and that kills. There is, in our opinion, no fault in the health of the fowls, and we doubt not close observation will enable you to discover the cause of the mortality. The treatment we advise you to adopt, is to purge them thoroughly as soon as they are taken ill, and then to administer stimulants. Unless we are mistaken, their evacuations are green and slimy.

WHITE BASE OF TAIL FEATHERS OF PARTRIDGE COCHIN COCKEREL (*Fred*).—It is not desirable, but it is hardly a disadvantage.

TAIL FEATHERS NOT ESCAPING FROM THEIR CASE (*New Beginner*).—Moisten the part where the faulty feathers grow with plain ointment; spermaceti will do. A heated condition of body often hinders the proper formation of the principal feathers. That can be remedied by opening medicine, or by change of food. Lettuce is excellent feeding for fowls when moulting; meat, peas, and hempseed are very bad. Sometimes the feathers cannot pierce the skin, and then they grow under it, looking like a worm crawling about. Such never becomes a healthy feather, but it may be assisted if a stout needle be put under it, and brought through the skin. As a rule, the formation of faulty or diseased feathers is a bad sign.

INDIAN CORN FOR FOWLS (*A. L.*).—Our experience of feeding on maize has not been confined to poultry. We have also fed pigs on it. When we attempted to feed on Indian meal, none of our animals would eat it. They would pick up the whole corn ravenously, but they would not touch the meal. The Irish Turkeys are fed on potatoes. They are exceedingly fat, but they have no flesh, and their livers are immense, both in size and fatness. We fed some Geese for table purposes on Indian corn. In appearance they were beautiful, but they proved very imposters when put before the fire; all the fat disappeared, and the lean assumed and retained the colour, appearance, and toughness of indiarubber. It is a good help, but it is bad if it is the sole food. We prefer ground oats to barley, and think when the mixture is given it should be in the proportion of one-third of Indian meal to two-thirds of ground oats. We believe that it is the most economical feeding to give the best of everything, and we have more faith in oats and barley than in maize and potatoes. Maize is much liked by poultry when whole, and is very useful in severe weather, because the small birds cannot swallow it.

FOWLS AND THE FOOT-AND-MOUTH DISEASE (*C. E. I.*).—We have heard of no case where the foot-and-mouth disease of cattle has been communicated to any biped. We cannot think the chickens can have caught it, and in such case we must seek the cause among ordinary things. With the changeable weather we have now, many things are injurious that would be innocuous in settled summer weather. Damp and cold reign now in places that are frequented and sought in hot weather for the sake of their coolness. Do the fowls roost properly? Are they protected from draughts? Is the flooring of their house of earth? Middlings may be good food in summer, but you may leave it off now. Give oat and barleymeal slaked, and if, when the weather changes for bitter east wind, you give a little strong beer, it will do no harm. We do not compass your meaning when you say "they have no crop." If you will make that a little clearer, it may help us to advise you more fully. In all such cases as you describe we use stimulants, beer and even wine, freely. They keep the bird up, and enable it to live through the crisis of the disorder. We also administer pills of camphor with marked benefit.

TURKEYS WITH SWOLLEN HEADS (*W. T.*).—In all probability your Turkeys when young were left to the tender mercies of their mother, and she had her liberty. Whenever this is the case, the brood suffers. The hen should be confined till the young are old enough to shift for themselves. The hen has no idea of measuring strength, and will drag her poor brood about till they have perished. The survivors have swollen heads and knees; they do not thrive, and are just as you describe yours to be. Keep them very dry, especially let them have a dry roosting place, give them plenty of bread and ale, let them have every night for four nights two pills of camphor, each as large as a horse bean, and let them have camphor in all their water. This will cure it; it would have done so more easily had it been adopted at an earlier stage of the disorder.

DESTROYING EGGS' VITALITY (*Housewife*).—Many means are tried; we take our chance. Some take a fine needle and pass it through the egg from end to end, others shake each egg vigorously. We believe there is no certain mode of destruction, unless you spoil the egg for breakfast purposes.

FATTENING DORKINGS (*Idem*).—You may have fowls in good condition fed and treated as yours are; but if you want them to be fat, they should be shut up and fed with ground oats slaked with new milk. Give no rice nor whole oats. Buy Baily's book on fowls. It describes the whole process.

TWO NAILS ON ONE TOE (*B.*).—It would be hard if the pullet lost, but it must be considered a disadvantage. If it be only an extra nail it would very likely escape notice.

EXHIBITING DARK BRAHMAS (*H. B.*).—Your fowls are good enough for the selling class. The first described is small, but the description is that of a good bird. You state this bird has no vulture hock. Are we to infer from that, that the heavier bird has? If he has, that in our mind would at once settle the question. The vulture hock would weigh more against him than the extra pound and a half in his favour. Supposing the larger bird has no vulture hock, we should exhibit him in preference. You have been rightly informed about the wing; a perfect wing should be as you describe, and it should have no brown. The defect in your bird is trifling. It is with fowls, as with other things, much easier to describe perfection than to find it.—B.

BOOK ABOUT BEES (*Sultan*).—"Bee-keeping for the Many," published at this office, price 4*d*. The simplest hive for taking honey is Payne's Improved Cottage Hive made rather larger than therein described, say 16 inches in diameter, by 8 or 9 inches deep.

MINORCA OR ANDALUSIAN FOWLS.—"H. F." wishes to know where he can obtain some cheaply.

MATCHING DIFFERENT PIGEONS, &c. (*H. Ekeley*).—A yellow cock and black Barb hen would probably breed a yellow and black in each nest, but if there were black blood in the yellow, more blacks, and *vice versâ*. A crested Barb and a smooth head would probably breed point heads, and so spoil both, or, it might be, one smooth and one crested. A yellow Jacobin cock and blue hen would produce a very bad colour. We are afraid a cock Pigeon infertile with one hen would be so with any other. Of course, you are sure the defect is in him. We tried a very valuable cock Jacobin with several hens, but in vain.

CANKER IN PIGEONS (*W. N. H.*).—Apply a strong solution of alum with a feather twice a-day. If the swelling become loose, remove it, and again apply the alum and water. Feed your bird very sparingly, and pull out some of the feathers of the tail.

GERMAN BEE JOURNAL (*C. F. B.*).—You can have it through Messrs. Trubner & Co., Booksellers, 60, Paternoster Row, London.

PARSNIPS FOR COWS (*B. B.*).—Take some up and store in sand, to use when the ground is hard frozen; but the major portion may be left in the ground, and taken up as required. They are not injured by frost.

SATINETTE PIGEONS.—Mr. A. H. Stewart has enclosed to me a letter from Mr. Noyé in which it is stated that Mr. Stewart bought of him the Satinettes which gained the first prize at Bingley Hall in 1868. He sold Mr. Yardley another pair which he, Mr. Noyé, thought were the best.

GOLD AND SILVER FISH (*Rus*).—We do not think that they would live in rain water discoloured with soot. Charcoal put in would have no influence for their well-doing.

ZEBRA WAXWINGS (*A Subscriber, H. T.*).—We do not know of any instance of the Zebra Waxwing birds breeding in confinement. We should, however, treat them the same as we do Canaries, by putting a pair in a spacious cage, and giving them boxes to form their nests in. Their food should be chopped egg boiled hard, bruised hempseed, mawseed, and crumbs of bread.

ELDER WINE NOT FERMENTING (*C. G.*).—Violent fermentation is not needed. If left open in the cask for about a month and then bunged down, the quiet gentle fermentation renders it vinous. If, however, you wish for a strong visible fermentation put into the wine a toast rubbed over with yeast.

POULTRY MARKET.—NOVEMBER 3.

THE quantity of poultry has increased, and we have a dull trade. November is generally "the winter of our discontent," and it opens as though the present would be no exception.

	s.	d		s.	d
Large Fowls	3	6	to	4	0
Smaller do.	3	0		3	6
Chickens	2	0		2	6
Geese	6	0		7	0
Ducks	2	0		2	6
Pheasants	2	6		3	0

	s.	d		s.	d
Partridges	1	4	to	1	6
Grouse	2	0		2	6
Pigeons	0	7		0	8
Hares	2	6		3	0
Rabbits	1	4		1	5
Wild do.	0	8		0	9

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 11—17, 1869.	Average Temperatures near London. Day.	Night.	Mean.	Rain in last 42 years. Days.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises. m. h.	Moon Sets. m. h.	Moon's Age. Days.	Clock after Sun. m. s.	Day of Year.
11	Th	Bristol Chrysanthemum Show.	50.3	34.1	42.2	15	12 af 7	18 af 4	50 af 1	28 af 11	)	15 48	315
12	F		50.3	34.0	42.1	17	14 7	16 4	15 2	morn.	9	15 40	316
13	S		50.0	35.2	42.6	22	16 7	14 4	36 2	35 0	10	15 32	317
14	Sun	25 Sunday after Trinity.	48.5	33.8	41.2	20	18 7	12 4	55 2	38 1	11	15 23	318
15	M		49.1	35.0	42.1	19	20 7	11 4	14 3	43 2	12	15 12	319
16	Tu	Royal Horticultural Society, Fruit, Floral,	49.0	32.9	40.9	14	22 7	10 4	34 3	48 3	13	15 1	320
17	W	[and General Meeting.	48.1	33.8	40.9	19	23 7	9 4	55 3	53 4	14	14 59	321

From observations taken near London during the last forty-two years, the average day temperature of the week is 49.3°; and its night temperature 34.1°. The greatest heat was 63°, on the 12th, 1841; and the lowest cold 18°, on the 15th, 1848. The greatest fall of rain was 1.24 inch.

THE GREAT ADVANTAGES AND SMALL DIFFICULTIES OF SMALL GARDENING.

KNOWING how gladly I always receive any information through your Journal on the cultivation of my garden, I am led to believe that many of your readers will accept a few remarks from a cottage gardener on the minor points of cultivation.

My own greatest difficulty has arisen not so much from not knowing how to grow anything as in making a choice of what is really worth growing, from the great diversity of kinds to be found in seed lists; and whilst agitation is going on about the alteration of the land laws, in my opinion every householder who desires it ought to have the option of possessing a garden, to give him some chance of healthy recreation, and to counteract the evil influences of the tap-room.

In a few words I will state how I overcame the difficulty of securing gardens to the working classes in my native village—Chester-le-Street. After looking out for a long time I obtained a five-years lease of a fine old pasture field four acres in extent. It had not been broken up for a very long time; but the prejudice against the breaking up of old pastures was overcome by stating the fact, that if at any time it were found desirable to again lay it down in grass, in consequence of the high cultivation of cottagers it would be greatly enriched, and correspondingly enhanced in value. Immediately on coming into possession last November, I divided it into patches of 22½ yards square, and readily found twenty-four tenants at £1 each, and in some instances two joined to take one garden. A large space was left in the centre of the field for a recreation ground at all times open free to the public. The result has been not only the satisfaction of benefiting the place, but a profit of about £7 a-year. My reason for giving the above instance is to encourage others with more means, to bring their influence to bear on so desirable an object as securing a piece of ground (sinking both the profit and pleasure to be derived by its cultivation), where the mechanic, after attending in a confined atmosphere to, in many instances, an unhealthy employment, can resort with his family at pleasure, and obtain all the blessings of that great disease-destroyer — the bracing, fresh air. As regards the first year's produce, with a few exceptions, to which I shall probably refer, it has exceeded our most sanguine expectations.

In naming a few flowers worth growing and stating my experience in growing them, let it be understood that I am not a professional gardener, but only give the experience of an amateur. I shall commence with my favourite the Gladiolus, and describe as plainly as possible the cultivation of six dozen bulbs in a bed in one of the new gardens. Having plenty of soil and turf, I raised the site of my bed about 15 inches above the general level, thus obtaining a depth of about 2 feet of soil with good drainage. I then collected all the old wood I could lay hands on, placed it upright, levelled it with a quantity of turf, and burnt the whole, thus securing a good supply of charcoal and ashes. I spread the latter, about 3 inches thick, over the bed, and gave a good dressing of rotten hops I am of opinion that rotten hops form one of the very best of manures for the Gladiolus. I then turned over the whole several times. I next potted the bulbs in 4-inch pots, surrounding them entirely with charcoal, and placed them in a Cucumber frame, giving water very sparingly until they had pushed well through, when I removed them to a cold frame. I planted out when the plants were about 6 inches high, giving to each another handful of charcoal. The result of this mode of cultivation was my obtaining the first prize in the open class for seven varieties at our exhibition on the 17th of August, there being three competitors, and the third prize for three varieties in the cottagers' class, in which there were five competitors, failing in this instance solely through my blooms not being sufficiently expanded, as in quality they far exceeded the others. Subsequently I obtained five prizes at other exhibitions, all in the open class.

The Gladiolus, if good drainage be secured, likes plenty of water, but on no account use it fresh from any spring or deep well. You must secure what no garden ought to be without—a good-sized tub, the wider the better, that the sun may have the more surface to act upon, and two or three smaller ones for guano, soot, or any droppings one can collect. Should the spikes at any time show a yellow tinge, give a good drenching of soot and water, which will generally have an improving effect. The grower must not lose heart if they occasionally go wrong notwithstanding all his care and ingenuity. I will give an instance: I had a fine bulb of Stuart Low which threw up five spikes of a sickly yellow; when 4 or 5 inches high I washed and examined the bulb very minutely, and found that whilst the others were filling the pots with roots, in this instance they were not more than an inch long. After washing, I could not detect the slightest trace of any disease or grub; I carefully repotted it, and planted it out with the rest, but the spikes never grew more than a foot high, retaining the same sickly hue until they all died down. On taking it up I found that the roots were entirely decayed, and that it had formed two bulbs of about the size of a horse bean, the old bulb still remaining comparatively fresh. With two or three exceptions the rest have all done well, and produced a fine collection of bulbs.

I shall now give an opinion of the kinds I think the cottager ought to secure in making his first purchase, especially if intended for exhibition, and as the sum of 5*s.* is as much as can, on an average, be reasonably expected to be invested, I will try to lay it out to the best advantage. If you buy three bulbs for the money the chances are a hundred to one that you will not have three spikes on the day you want them; and selections at 4*s.* or 5*s.* per dozen for exhibition purposes will probably be just so much money thrown away. I recommend the purchase of four Brenchleyensis, the price being low, and to make almost sure of having one spike in a fit state for exhibition on the day of the show. Occasionally, even where good collections

are grown, exhibitors have recourse to this variety early in the season. Buy two bulbs of Penelope, there is seldom a stand without it; one Ophir, one Vesta, one Comte do Morny, and one Velleda, which is one of the very best kinds for opening quickly in hot weather—a great advantage. Where the stock is small you will thus procure for your money ten bulbs that, with good management and ordinary good fortune, will produce spikes all fit for exhibition. Your first year's experience, and putting down the names of any varieties that take your fancy, choosing those as round in the petal as possible, will enable you to hold your own in future. The six sorts that I have chosen to add to my collection next season are Adolphe Brongniart, Princess Mary of Cambridge, Milton, Thomas Mathven, Piccioli, and Madame Furtado.

I intended next to have said a few words on Dahlias, of which I have grown about three dozen varieties, but I shall feel greatly indebted if some one more qualified would give a little plain advice on their management, and name a few sorts suitable for cottagers. We want free bloomers, and kinds which are easily got up, as a cottager cannot be expected to grow more than one of a sort. One that has especially taken my fancy is Purple Gem, a good bloomer; and every bloom, though rather small, has been fit for exhibition.

I intended to have made a few remarks about nurserymen and their assistants at exhibitions, and possibly I may do so at some other time. I think nurserymen will agree that it is not by prizes, but by the sale of their plants, that they live; and how can they expect to sell their plants if they continue to allow their assistants to exhibit in the amateur class at many of our flower shows? What chance has an amateur or cottager with his dozen plants against the nurserymen with their thousands? The result will be that the amateur who loves to exhibit will lose heart, and cease to grow flowers.

Asters like good rich soil; do not be too late in sowing; sow in a cold frame to prevent their spindling up. I know nothing so good for exhibition as Truffaut's and the Dwarf Chrysanthemum-flowered.

Stocks are especial favourites of mine; apart from their beauty, in the dusk of the evening what is half so sweet? Do not be in a great hurry to sow, as it is a pity to see them going off when everything else looks gay. I like the dwarf and large-flowering German the best. Much has been said about their damping off. I fear we occasionally go to the other extreme, and dry them off. Sow in boxes in a cold frame, and be sure that the boxes are placed level, in order that moisture may not tend to one side. Give gentle waterings from the rain-water tub, do not be too late in pricking-out the plants into other boxes, and on no account let them become drawn up, but rather let them grow like little pyramids as broad as they are long. What is worse, on passing along the border of a garden, than seeing Stocks some 8 inches long flat on the ground, or just turning up an inch of their heads, as if ashamed to be seen in such a pitiable predicament? I will describe a bed of Stocks I had this season containing 416 plants, the colours being kept separate. I planted eight rows by six of scarlet in the centre, and then arranged rows of different shades all round, with dwarfs at the outside. I never tired of looking at them, and I felt it was quite a compliment to be told by both ladies and gentlemen who employ gardeners that it was the finest bed of Stocks they had ever seen, the plants so shrubby, and not one failure.

Another favourite of mine is the Verbena, of which I have grown about twenty-six varieties this season. It likes rich peaty soil, and in a few words the secret of success is to keep the plants growing, never allowing them to become infested with the green fly, or to be stunted. This season in cleaning them I have used nothing but water with a little soft soap, after taking the chill off a little, placing those in pots on the sides of the pots, and giving them a good syringing as much underneath as possible. Should the plants become affected with mildew, give them a slight dusting with sulphur. For pot culture choose shrubby growers. Cannell's Beauty of Kent is a very desirable kind for this purpose. For cut blooms, the best I have grown, and those I can recommend, are Géant des Batailles, Warrior, Reine des Roses, King of Verbenas, James Birbeck, and Miss Wimsett. Not having the means of wintering Verbenas satisfactorily, I generally obtain by post a new supply at a very small rate, from a nursery, my transactions with which have been so thoroughly satisfactory that I feel tempted to give the address, did you not justly refrain from giving the preference to any particular firm. It cannot, however, be too widely known, that with our cheap postal and railway communication, it is in the power of anyone to stock his garden with the most choice plants from nurseries three or four hundred miles off, at a singularly low cost, though, of course, if one can be supplied as well from nurseries at home, by all means I would give them the preference.

The Pansy is another old flower that never seems to go out of fashion, though I confess it has such a host of enemies that I have nearly promised to let it grow at the outside of my garden in future. The wireworm seems never so happy as when snugly ensconsed in the heart of your favourite Pansy. A troublesome little insect, which I think is the red spider, is quite a pest. Snails and caterpillars have an especial fancy for Pansies. The plant requires plenty of river sand, made rich with sheep droppings. Let your bed be so situated, that it will be exposed to the morning sun, and cover it entirely with charcoal, or one half burnt sawdust. Pansies like this, and slugs do not. In dry weather damp them as often as you like. The only means that I can find of destroying the red spider is, if the blooms are eaten, to pay them a visit at night with a candle, and most likely the depredators will be secured. In judging the quality of a Pansy—say a yellow ground, you must have the eye as small and distinct as possible, the blotch, too, as distinct as possible; the ground or yellow portion all of one shade, with the centre petals touching each other at the top; and the belt as distinct and regular as possible. Having obtained these qualities you must grow your blooms as large as a crown-piece, and they will be fit for exhibition. In a stand of six, I like to see a good black, a yellow, a white, a yellow ground, a straw-coloured ground, and a white ground.

I will reserve a few words on vegetables for a future time.—Joseph Witherspoon, *Chester-le-Street.*

MARINE AQUARIA.

Many of the lady readers of "our Journal" no doubt annually visit the seaside, and while there, in addition to gathering up health and spirits, will also find intelligent amusement in collecting specimens of seaweeds. Those who happen to be botanically inclined will mount and classify them scientifically, while those whose proclivities are merely artistic will put them together in picturesque groups, quite wonderful in their way, and carry them off as souvenirs of sea breezes, pleasant days, and sundry happy incidents. But the delicate forms of the finer Algæ, to be duly appreciated, must be seen in their native element, and a little bit of the great ocean imprisoned in a handsome glass case forms a most interesting object either in the drawing-room or conservatory. Salt-water aquaria are by no means rare in first-class gardens throughout the country, but they are mostly of the large expensive sort, and are devoted principally to the keeping of marine animals. Of these curious creations, with their mysterious forms and habits, it is not my intention to say much, but there is a strange fascination about them, and those who have not made themselves a little familiar with them will find on doing so that they had hitherto left uncut one most interesting page of the great book of nature; only a few of them must be kept, even when seaweeds are the first consideration, the presence of each in the aquarium being essential to the health of both.

The tanks themselves can be had of many forms and sizes, and constructed of various materials, the bottoms being stone, terra-cotta, slate, wood, iron, or zinc. The last two are, however, objectionable. The most convenient and symmetrical form is, I think, an oblong, twice as long as it is wide and deep. For those of small size, such as 18 inches by 9 inches and under, common 21-oz. glass will do; if above that size heavier plate must be used. I have seen some very neat conservatory tanks made with only the two sides of glass, the ends as well as the bottom being of inch slate; they are thus much easier of construction, and therefore cheaper, as well as cooler and less apt to leak, than those with four sides of glass, though perhaps not quite so ornamental.

Having the tank, where to place it becomes the question. The body of water it contains being comparatively small, it must not be exposed to the full glare of the sun, neither should it be continually under a cloud. The north or east end of a greenhouse or conservatory, where it can have a few hours' morning or afternoon sun daily, and where there is a free circulation of air, will do very well in summer; at other seasons it should have the lightest place in the house. The aquaria also do admirably before a drawing-room, hall, or staircase window if it can be frequently open, but dust must be guarded against.

Before filling the tank some miniature rockwork will have to

be contrived, and in doing this a certain degree of caution is necessary. To preserve the plants in health, and keep the water clear as crystal, perfect cleanliness is required, therefore the fewer hiding-places that are made for dirt the better. Any little caverns which are made should be so placed that their innermost recesses can be easily reached by a pair of long, slender, wooden forceps, and all decaying pieces of fronds removed. A little very fine gravel, free from sand, should be scattered over the bottom, and for the other materials fancy or convenience will decide what to use. Brain coral, honeycombed rock, felspar, or pieces of various-coloured marble and granite, all look well. On and among these, in such positions as best suit their different sizes and colours, the Algæ must be anchored. dropping the little bits of rock on which they are growing, or, rather, to which they are attached, into the crevices, or otherwise fixing them, while the exquisitely delicate fronds float freely and gracefully above, like nothing but themselves.

With ordinary care the water may be kept good for a twelvemonth without changing it; under good management it will last for years. To guard against its original density being increased through evaporation, the height of the water when the tank is first filled should be marked upon the glass with a diamond, and whenever it falls below this fill it up to the mark again with fresh rain water; but should any loss occur by leakage, as is sometimes the case, it must be made good with salt water, and not fresh.

In making a selection of Algæ the question of which to grow, owing to the wealth of species to choose from, will rather resolve itself into the negative form, and what not to grow become the puzzle. In a rough way seaweeds are divided into three great classes—the Olive, the Red, and the Green. The Red contains the most suitable for the aquarium. Some of the finest will be found in the species Callithamnion, Bonnemaisoniana, Plocanium, Delesseria, Nitophyllum. The common Irish Moss, Chondrus crispus, and Rhodomenia palmata, the "caller dulse" of the Edinburgh fishwives, are both easily kept and look well. Of the Green sorts the most handsome is Ulva latissima, with long frilled fronds very much resembling those of the Fern Scolopendrium crispum.

I mentioned the water being kept pure and wholesome for months and sometimes years without changing; but I have also known it more than once become foul in a very short time after being first put in, and that, too, without any very apparent cause. If all the materials have been perfectly clean when put in, the Algæ free from decaying matter, and the water procured pure from the sea, not near the mouth of a river, then the opacity, if only of a light milky colour, will most likely disappear of itself after the water has been aërated a few times with a small syringe; but if, on the contrary, the water assume a brandy tinge, however slight, it may be emptied out at once as hopelessly contaminated. When all is well a gentle disturbance with the syringe must be given once a-day. To preserve the chemical balance and keep up some motion in the water, a few of the common little rock fishes should be introduced. Those known as blennies are very lively, and are easily procured and kept; also a few molluscs, and some of the very small crabs, particularly the hermit or tenant crab, whose restless habit of clattering about continually with his borrowed house on his back is most amusing. Last but not least, there are the sea anemones, and some conspicuous spots should be kept on which to place a few of them. An aquarium, even though it contained nothing else but a collection of these, would be most interesting. Their colours are so various—striped, flamed, and jewelled, purple, violet, red, pink, and nearly white, and their resemblance to flowers—living, eating, and, for aught that we know, in some degree thinking creatures though they be—is so striking, that they almost come within the legitimate province of the floriculturist. How they live is a miracle, for I have kept specimens of them seemingly in perfect health for more than eighteen months, and only fed them with morsels of oyster at intervals of five or six weeks. They, as well as all seaweeds intended for the aquarium, should be removed from the rocks by chipping away with a chisel the small piece to which they adhere—no easy task sometimes in the case of the anemones, as they generally affix themselves to some hard smooth surface, or in some snug nook, from which it is rather difficult to take them unhurt.—Ayrshire Gardener.

Royal Horticultural Society.—At the meeting to be held on Tuesday, November 16th, the following prizes are offered—viz.:—By W. Wilson Saunders, Esq., 1, Collection of Winter Bedding Plants, to be exhibited in pots or boxes, £2 and £1: By the Society, 2, Four Chrysanthemums, large-flowered, in pots, distinct (open), £1, 15*s*., and 10*s*.; 3, Four Chrysanthemums, Pompons, in pots, distinct (open), £1, 15*s*., and 10*s*.; 4, Twelve Chrysanthemums, cut blooms, distinct (nurserymen), 10*s*., 7*s*., and 5*s*.; 5, Six Chrysanthemums, cut blooms, distinct (amateurs), 10*s*., 7*s*., and 5*s*.; 6, Twelve Plants bearing decorative fruits, in pots, varied (open), £1 5*s*., £1, and 15*s*.; 7, Six Plants bearing decorative fruits, in pots, varied (open), 15*s*., 10*s*., and 5*s*.

BEDDING PELARGONIUMS—YELLOW CALCEOLARIAS.

Another season is nearly gone, leaving behind it many useful lessons. The effects of the passing season as regards some branches of horticulture have been remarkable, rendering the year one to be remembered and quoted for a long time. Cold, chilling blasts swept over the land, and heavy moisture-laden clouds obscured the bright sky of spring, shutting out the warm rays of the sun so necessary to cherish and develope tender vegetation. Very welcome was the change when the wind, shifting to a more genial quarter, dispersed the dark clouds, and the sun with daily increasing power dispelled the superabundant moisture, penetrating and warming the soil, quickening the motion of the sluggish sap, and animating and beautifying the whole face of nature.

The effects of this protracted cold were very visible in our flower gardens during the early weeks of the summer; even the sturdy zonal Pelargoniums appeared brown and stunted for a time; but at length all worked right, bed after bed put on its best appearance, and the bright glow of the whole design proclaimed it summer.

Although it is intended that these notes should refer more especially to bedding Pelargoniums, yet I must remark, in passing, the great beauty of the beds of Calceolarias this year. I never remember seeing this flower more effective and useful, for the beds of it were in full beauty long before the earliest beds of Pelargoniums. Nothing is so effective in a design as a few bright masses of Aurea floribunda if not overdone; it relieves, it brightens, it beautifies. It is one of those flowers for which we have no substitute; but as with many other bedding plants, its bold and striking colour renders it a somewhat difficult, or rather dangerous subject, for if too much of it be used it serves but to mar or render gaudy where it should only brighten. Yet, notwithstanding the great and early display produced by the Calceolarias, when the tardy Pelargoniums at length made growth and blossomed, the diversity of colour both of foliage and flower which is their peculiar property at once established their supremacy.

To be really enjoyable, a flower garden must not only be beautiful as a whole, but the beds must be interesting when looked upon individually; and it is from the numerous sterling sorts of Pelargoniums that we obtain materials with which this effect may best be produced. As far as I have been able to judge, many of the old varieties are still unsurpassed. For producing a rich and dazzling mass of bright scarlet, of Cybister it may be said that it has "no superior, nor yet an equal." In a comparison of its merits with Lady Constance Grosvenor, the latter, in sporting parlance, is "nowhere;" its habit is certainly very fine, but in these days of massing, abundance of blossom must rank first. Plant Cybister thickly, and its thin growth ceases to be a blemish.

Stella, Minimum, Amy Hogg, Waltham Seedling, Provost, Lord Palmerston, and Christine have all been very fine. One question which constantly presented itself to my mind during the past season was, Is Christine yet beaten? Maid of Kent is unquestionably a fine variety; its growth is sturdy and compact, its trusses are large and abundant, and its deep pink tint is unrivalled; but it has just one fault that spoils all these advantages, and that is, that its flower stalks are so long that its trusses, instead of just nestling in or being slightly elevated above the foliage, are borne above it in so high and irregular a manner as to quite unfit it for small beds. Perhaps others who have cultivated it will kindly offer their opinion of its merits. Another excellent kind which has been very fine is St. George. It is a strong grower, but its very deep scarlet flowers are quite distinct from those of any other variety. Dr. Hogg, too, is a splendid kind, of good habit of growth; the truss is large and handsome, resembling Amy Hogg, but the flowers are broader in petal and deeper in colour. Violet Hill is the best cherry-coloured Nosegay Pelargonium I have ever

grown; it is dwarf and compact, with abundance of finely formed trusses, and is first-class in every respect. Éclat is evidently closely allied to Le Grand, which it very strongly resembles both in its growth and flower truss, but it is of a much deeper shade of colour. It is a desirable variety. Blue Bell is of strong growth; its trusses are large, and its singular colour, a bluish pink, gives it a distinct and striking appearance. Next comes the beautiful Glory of Waltham with its deep rich glowing crimson scarlet trusses, which are large and compact; its very deep colour, together with its plain green foliage and spreading habit, tend to make this a distinct and excellent kind. It is superior to Crimson Queen, to which its flowers are very similar. Grand Duke is a bold, striking, and splendid variety, having immense trusses of orange scarlet; the flowers are very large, and the habit is moderately vigorous. Next this La Peyrouse may worthily occupy a place, for it is a splendid variety, moderately strong in its growth; its extremely large trusses, which render it so conspicuous, are produced in sufficient abundance to make it a valuable bedding plant. The colour is an intermediate shade between Rebecca and Provost.

Among broad-petaled scarlets, several kinds of nearly equal merit claim notice. Lord Derby, Ardent, Scarlet Circle, and The Clipper are all equally good, all producing fine large trusses, with flowers of exquisite form, and bold and handsome foliage. A bed of The Clipper has been very beautiful, and I am inclined to yield precedence to it for that purpose; the flowers of Ardent are rather larger, but its habit is scarcely so good, nor is it equalled as a bedder by Lord Derby, with which it has been grown side by side. Some beds of the old variegated Manglesii, alternating with others of Purple King Verbena, had a good effect. A new and meritorious sort resembling this old favourite, is called Duke of Edinburgh.

It will, I hope, prove useful to conclude these notes with a selection of one or two first-class kinds in each section.

Taking zonal Pelargoniums first, we have Faust as a strong-growing scarlet, The Clipper of medium growth, and President Reveil as a splendid dwarf kind. Among the lighter shades of scarlet, Provost is too good to be left out, and for producing a rich bright mass of orange scarlet Grand Duke has no equal. Of bright pinks, Christine, Maid of Kent, and Blue Bell will suffice. And then amongst Nosegays the brightest of all bright scarlets is Cybister, and for a strong-growing, deep, rich scarlet St. George, and Violet Hill for a lake rose or cherry colour; while either Lord Palmerston or Minimum will please as light crimson shades. No finer deep crimson can be had than Glory of Waltham, or a brighter rose colour than Dr. Hogg.

Of kinds grown for the effect of their foliage nothing can be better than Crystal Palace Gem for a yellow, and Castlemilk for a white leaf; and from the multitude of kinds known as gold and bronze, Her Majesty may be chosen for its broad handsome zone, and Beauty of Ribblesdale for its narrow zone and fine bright yellow colour. Of Golden Tricolors, Lady Cullum and Louisa Smith will be sure to please, the first by its richness as a mass, and the second by its very large bold foliage and free growth. Of Silver Tricolors I shall say nothing as bedders; but for pots, Glen Eyre Beauty, Italia Unita, Queen Victoria, and Impératrice Eugénie are all distinct and good.

My object in offering so short a list is to render it useful to those who may require a few choice kinds, and in making the selection I have been obliged to pass over many of my favourites, but of those chosen I have no hesitation in saying that they are the cream of a collection of several hundred varieties.—Edward Luckhurst, *Egerton House Gardens, Kent.*

PROPAGATING PLUMBAGO CAPENSIS.

Seeing in your last number an article on Plumbago capensis, signed "C. A. G., *Ealing*," in which some details as to the plant's propagation are desired, I feel much pleasure in communicating my simple method of producing plants. When I received my plant I was informed that I could only propagate it by suckers. Having had my plants for nearly three years without producing a sucker, and thinking it necessary to prune it last spring with the idea of getting it into better shape, I took care of what I cut off, selecting from the prunings four which had new shoots from 2 to 3 inches long. These new shoots only I put into a pot of good mould with which I mixed a little silver sand, covering them with a tumbler-glass, and giving them a little water to prevent them from drooping. I placed them in a shady part of my little greenhouse for a few days, and then exposed them to light and sun, taking care to supply them with water that they should not flag. I kept the glass on until I saw they were growing, only occasionally taking it off to give a little fresh air for a few minutes. I have now four plants, two about 6 inches high, and two fully 1 foot high, and branching. I shall repeat the experiment next spring, as I am very fond of my plant. The flowers are exceedingly pretty and delicate.

Having no convenience for a hotbed or bottom heat, I generally succeed in growing plants by this method.

I am indebted to your correspondent for the information as its being half-hardy, which will enable me to plant it in the garden for the summer months.—T. H. W., *Bristol.*

ORCHARD-HOUSE CROPS.

In a season of failure generally, the orchard house has again given us a good crop of fruit. This most assuredly must be attributed to the house being heated; at the time the trees were in flower, the weather was most unfavourable to the setting of the fruit. Continued low temperature, if the air is dry at the same time, is not so injurious, but the atmosphere was charged with moisture as well, so that it was necessary to have the house warmed artificially by day as well as at night. The fruit has been very fine; this year Peaches and Nectarines are the principal crop, but a few of the finer varieties of Pears are grown; all of them are in pots, and are now moved out of doors in order that the house may be filled with Chrysanthemums, so that as soon as the interest in the trees ceases, the interest in the flowers begins.

There are still gardeners who are averse to orchard houses, and some of the correspondents of the Journal are not favourably impressed with them. I think a garden incomplete without an orchard house, it is quite as good as a Peach house for growing Peaches and Nectarines, and very much more interesting, owing to the greater facility with which the trees and fruit can be examined, and the greater number of varieties which can be grown in the same space. Trees cultivated in pots require a greater amount of attention as regards watering, but the expense of wiring the house and training the trees to the wires afterwards is avoided. Pears are also grown to great perfection in pots in the orchard house. Some cultivators advise moving Pear trees out of doors to ripen their fruit, but I have not obtained fruit of such good quality by doing so; the best Pears are those ripened under glass.

I weighed some of the fruit this year from the pot plants; the Summer Beurré d'Aremberg (Rivers) were very small, four of them weighed 12 ozs.; three fruit of Williams's Bon Chrêtien weighed 1¼ lb.; and three Beurré d'Amanlis, 1 lb. 11 ozs. Madame Treyve is a free-bearing Pear, the fruit juicy, and of an agreeable flavour, four weighed 2 lbs. 7 ozs. Louise Bonne of Jersey is one of the very best Pears for orchard-house culture, it is always full of blossom-buds; four of the fruit weighed 2 lbs. 7 ozs. Beurré Diel is also an excellent variety, it is of good flavour, and the largest of dessert Pears; one of the fruit weighed 18½ ozs., and three together were 3 lbs. 1 oz. General Todtleben is a very fine Pear, but it is not a free-bearing variety. I have had fruit of it weighing 18 ozs.

The Peaches and Nectarines ripened earlier than usual. Early Beatrice Peach is the earliest now; it ripened on the 1st of July. This is a useful variety, although it is only of medium size; it is a good-flavoured Peach, and keeps pretty well after it is ripe. Early Rivers ripened on the 8th of the same month; this is also of medium size, the flesh is very melting, and the fruit decays directly it is ripe. Hunt's Tawny Nectarine did not ripen until the 20th. This is the earliest Nectarine here; it is a very useful sort, but very much subject to mildew. This can only be kept under by repeated dustings with flowers of sulphur. Early Grosse Mignonne Peach was the next to ripen on the 21st, succeeded by Dr. Hogg and Royal George on the 24th. In the first week in August, I picked the following varieties of Nectarines—Downton, Cricket, Murray, Rivers' Orange, Violette Hâtive, and Balgowan; of Peaches—Grosse Mignonne, Galande, Bellegarde, and Violette Hâtive. Prince of Wales and Victoria Nectarines ripened about the middle of August; these two are the latest Nectarines.

There are some good late Peaches to select from now, and some of them set their fruit much more freely than Late Admirable. Walburton Admirable is also a very fine Peach, but shy in setting its fruit. Another very fine late Peach is Ex-

quisite, an American variety; it has yellow flesh; it is also rather shy in setting its fruit. Mr. Rivers has raised some very fine late varieties. Prince of Wales succeeds the mid-season varieties; it sets its fruit freely, and is a very useful variety. Princess of Wales has large flowers; the fruit sets freely, is of large size, and of excellent quality. It ought to be in every collection; it ripens after Prince of Wales. Lord Palmerston bore half a dozen fruit for the first time here this year. Mr. Rivers describes it very truly. "Very large, the largest of Peaches; skin creamy white, with a pink cheek; flesh firm yet melting, very juicy, and rich. Flowers very large and beautiful." It ripened with Princess of Wales, and is slightly a clingstone. The last Peaches to ripen were Comet and Salway; they ripened about the same time, and have a great resemblance to each other; both are yellow-fleshed, melting, and good.

I can say very little that is new about cultivation. It is a good plan to have the trees potted early. I pot them directly the fruit is gathered, so that they make fresh roots in the new soil before the leaves fall. Overpotting is to be avoided, but the soil must be very firmly rammed in.—J. Douglas.

GRAPE VINE CULTURE IN CEYLON.

We are informed by a gentleman just returned from Ceylon, that there the Vines are taken up annually, great care being necessary to avoid breaking the roots, this operation being best performed by grubbing away the earth with the hands. The roots are then exposed to the full rays of the sun, until the leaves shrivel and fall. The Vine is then cut down, and replanted in fresh soil. The time, as far as he remembers at present, for exposing the roots to the sun, is at the end of the dry season, when there is not so much sap in the wood—this would correspond to our autumn, preparing to a certain extent the plants for the shock of the frost—in the tropics of the sun.

THE COCKCHAFER GRUB, THE "VER BLANC" OF THE FRENCH.

Your correspondent, "Y. B. A. Z." (page 307), must have but a very slight acquaintance with this very troublesome pest in our gardens, else he would not have written as he has done respecting it. "R. F." and "D., *Deal*," are both right in saying that it feeds on the roots of plants; there is no question at all with respect to that. "Y. B. A. Z." says "he has never found it in garden soil." Well, neither have I very often in this country. Let your correspondent visit France, however, and see the wholesale destruction which it there causes, both in fields and gardens. Very few plants are safe from its depredations. Not only grass, but all sorts of vegetables, also fruit trees, young Coniferæ, and Rhododendrons, especially the last-named, the young roots of which and the bark the grubs peel off quite to the surface of the soil. Vast sums of money have been expended in France on their destruction, yet with no apparent diminution. They are becoming a perfect curse. Long may your correspondent, and many others in this country, live in their present blissful ignorance, and be spared a more intimate acquaintance. Hear what Mr. Spinks (late of Chiswick), the very intelligent gardener at the Château de Chantilly (Oise, France), says on this subject: "In this country the insect, and its grub or larva, act as a complete plague to almost every species of vegetation, and large sums of money are annually expended in its destruction, but still it seems as plentiful as ever. Last year was noted for the quantity of the perfect insect (*hannetons*), and this year for the grub (*ver blanc*). Although the former commits great ravages upon the leaves of trees, especially the Oak, it is the latter that is most dreaded. As an example of their numbers, I may state that I was witness to the digging up of a piece of lawn, not more than 5 yards square, wherein were found 1600 of these grubs; the roots of the grass were all eaten off, and the dead and dying turf could be skinned off as if cut with a turf-cutter. They prey upon the roots of our fruit trees and Rhododendrons, which are destroyed in great quantities, and, indeed, nearly all sorts of flowers and vegetables. Lettuces have for them a great attraction, so much so, that they are grown and planted in our flower beds, &c., as traps for these pests. The grubs invariably attack the soft succulent roots of the Lettuces before anything else, which soon tell by their appearance of the marauders' visits. With the aid of a little stick they are soon discovered close to the root and destroyed, and another bait planted. In this way only, by continued perseverance in hunting them up, can we battle against our enemy or keep our plantation perfect.

"With respect to the destruction of the perfect insect, we find the best plan is to shake the trees or branches every morning, when the insects will fall in great quantities to the ground, and may then be swept up and destroyed by pouring boiling water over them. Pigs and fowls devour them greedily, but it is said to give the flesh of the former, and the eggs of the latter, a very disagreeable taste. This, however, I cannot vouch for."

I think this is evidence sufficient to convince "Y. B. A. Z." that these grubs do eat roots, and are, without doubt, one of the greatest scourges gardeners have yet had to contend with. —Archambaud.

APPLICATION OF MANURES.

On page 342 I see a notice of an article of mine by Mr. Graves. When I read it I thought it was by Mr. P. Grieve, and seeing it was intended as an answer to me, was surprised to find it was anything but an answer. Hard-headed Scotchmen have generally a reason to give for their opinions, and I read it through, hoping to see some good reason to reconsider the question. It is anything but disagreeable to me to be convinced of error, and I hold it no proof of superiority to be able to say I never change an opinion once formed. If truth is our object, new light on any subject ought to be welcomed. When I saw an editorial note at the foot of my paper that some difference of opinion with what I had written existed, and inviting discussion, I expected we should certainly have a consideration of the whole subject of manures and their application, which would be both interesting and instructive.

An argumentative reply is a compliment to any writer, because, however severe, it at least presupposes the paper worth an answer. A mere *ipse dixit*, except as to fact, is not so satisfactory.

I shall not review the whole subject till my previous arguments are answered, because those interested can read the article, page 221, and recapitulation will not give them force; but I will answer as well as I am able Mr. Graves's question, Why I consider the popular ideas on the subject of manures lead to injurious practice?

As long as persons think that fresh manure or fermented manure loses much of its strength by being thinly spread on the ground it is intended to enrich, manure will be treated in much the same way, whatever the nature of the land or kind of crop it is intended to benefit, or whatever the season in which it is applied. Those who wish to grow good Turnips on light soil know by experience they must use manure in a moist well-decomposed state; to expect to grow Turnips above dry unfermented manure would be as reasonable as to sow seed on a truss of dry hay. To obtain manure in a fit state for Turnips, the farmer of sandy land submits of necessity to a certain loss. It is impossible to ferment manure in large heaps without any loss, though with proper precautions that loss might be much reduced in amount. Who has not seen black streams running from a manure heap? How few know that such streams are not merely the water which was held in the manure, but in many cases are formed of what was once the solid manure itself, some of the results of fermentation being carbonic acid and water? Though by the intermixture of layers of soil in the heap much loss might be prevented, still the fermentation of manure is, I think, in this case, though necessary, a necessary evil. But for strong soils decayed manure is not a necessity. Unfermented manure keeps such soils open; and as strong land of good quality will retain manure for any length of time, no loss can be sustained, however long the time between its application and the sowing of the crop it is intended to benefit. Besides, all gases in a nascent state—that is, recently released from their combinations, unite with greater energy: therefore new compounds are more readily formed between the elements of the manure and those already in the soil. For these reasons I think it an unnecessary and useless waste of manure to ferment it in heaps before putting it into strong soils, and would prefer its being decomposed in the soil, which seizes with such avidity gases given off by decaying animal and vegetable matter. But supposing I have a field of strong soil which wants manuring, that there is plenty of good dung ready to be carted upon it, but the land is so hard and dry that no plough will enter it. If I believe that manure will be injured by sun and wind, and that to prevent serious loss it is necessary to cover it up at once, of course the idea of spreading manure under these circumstances will be dismissed. What generally happens in such a case? The manure is either left

in the yard, or more generally carted into a heap just inside the gate of the field for which it is intended. If left in the yard it is well placed to receive a good supply of water when the first heavy rain falls. Part of this water, after passing through the manure and being well impregnated with its valuable saline matter, will find its way into the nearest ditch or into a neighbouring horsepond; the remainder, held in suspension by the manure, must be carted as an additional and useless weight into the field. The loss in a well-made heap will be less than in an open yard, but it is generally considerable. The loss of saline ingredients is attested by the fact that for years corn is spoilt, being laid and mildewed where the manure heap stood, and often for a considerable space around it. That there has been a loss of gaseous matter during the fermentation and spreading of the fermented manure, few will deny.

Now, if the idea that unfermented manure spread thinly over a field in dry weather can be injured by sun and wind be erroneous, surely it requires little argument to prove the erroneous idea mischievous. If it has caused me to reduce considerably the bulk of what is mechanically useful in opening clay soils, if the manure has been lessened in value by the loss of saline matters and valuable gaseous products, if in place of carting dry and light manure on dry land I have carted wet, heavy manure on wet land, surely my horses, carts, men, land, and pocket have been sufferers by the mistake. In the case of the heaped manure twice filled and twice emptied, the increased labour incurred is very obvious.

To prove an erroneous idea mischievous, will by many be considered labour lost. Is it not always so? The question is after all, Is it erroneous? I have in my previous papers tried to prove it to be so, and there has not been yet any attempt, either on the part of our friends the Editors, or any of their correspondents, to refute the arguments advanced. It cannot be that the subject is unimportant to horticulturists, though it has been considered with reference to agriculture. Why, then, this reticence? Having to the best of my ability stated my view of the subject, I think those who take a different one ought to give us their reasons.—J. Pearson.

[With the statements relative to the preparation and application of manure contained in this communication we for the greater part concur, but we do not concur in the recommendation implied in our correspondent's statement at page 221, that he had acres covered with manure as dry as wind and sun can make them. He asks, "What has it lost besides water?" We reply that it has lost much more. If the manure had been either fermented or was impregnated with urine it lost by such exposure to the sun and wind ammoniacal compounds and carbonic acid, which would have been absorbed and retained in the soil if the manure had been ploughed in as soon as it was spread. Top-dressing is the only mode in which solid manure can be applied to grass land, but if it could be applied in a liquid form so as at once to be absorbed by the soil it would save much of its valuable constituents from being passed away in the air. That this waste happens to a great extent in the case of sheep droppings is certain. If they could be collected, made into liquid manure, and applied in that form to the soil, much waste would be avoided. We are of opinion that the most economical practicable mode of preparing and applying stable manure is to allow it to decompose in brick-lined pits, covered over thickly with earth, with wells to receive the drainage; that some of this drainage should be poured over each load as it is taken to the place to be manured, and that the manure be dug or ploughed in the day that it is carted on. Fresh guanos—that is, the excrements of seafowl, are richer in ammoniacal salts than those long exposed to the sun, just as fresh pigeons', sheep's, and fowls' dung make a liquid manure richer than do similar quantities of the same dungs when old. In considering stable or farmyard manure, we must remember that its most valuable constituent is the urine of the animals who formed it, and that most of the ammoniacal constituents of that urine are dissipated by exposure to the sun and winds; whereas they are all absorbed and retained by the earths of the soil if covered by it. We have not published our opinions before—opinions sustained by Davy and Professor Johnston—because we wished to hear from practical men the results of their experience—Eds.]

IS THE POTATO DISEASE HEREDITARY?

In No. 422 of The Journal of Horticulture you inserted a few lines from me relating to the Potato disease under the above heading. On the 14th of last April I planted twelve good Potatoes of the same late kind; the produce, dug October 15th, was 201 Potatoes of all sizes, twelve of them diseased—a small per-centage, but enough to create a doubt. It appears that all kinds of late Potatoes are more or less diseased; therefore I shall try again next year by planting them four or five weeks earlier.—W. Kerl.

STOKE NEWINGTON CHRYSANTHEMUM SHOW.

The twenty-third annual Show of the Stoke Newington Chrysanthemum Society opened yesterday at the New Assembly Rooms, Defoe Road, Stoke Newington, and will be continued this day. It well maintains its reputation as the mother of the Chrysanthemum shows round London. The specimen plants of the large-flowering kinds are especially good. Mr. Forsyth, of the Brunswick Nursery, is first with fine specimens of Christine, Prince of Wales, Lady Harding, Annie Salter, Dr. Sharpe, and Mrs. George Rundle, the last very fine. Messrs. Drain, De Beauvoir Town, are second with White Christine, Alma, Dr. Sharpe, Prince of Wales, and Beverley. These, too, are very good. In the class for three plants Mr. Forsyth is also first with Mrs. G. Rundle, Dr. Sharpe, and Prince of Wales, all of which are excellent specimens. Messrs Drain are second, and Mr. Butcher, gardener to C. Ballance, Esq., Lower Clapton, is third.

With three Pompons, Mr. Howe is first with Bob, General Canrobert, and Cedo Nulli, each very well grown, and full of bloom. Mr. Forsyth is second with Bob, Golden Aurore, and White Cedo Nulli, also excellent; and Mr. North, of Lee, is third. The best six standards come from Mr. James, of the Rochester Castle, and also the best collection, Mr. Butcher being second.

The best six Pompons, and excellent indeed they are, come from Mr. Forsyth, and consist of Cedo Nulli, Golden Cedo Nulli, Lilac Cedo Nulli, Sainte Thais, Bob, and Andromeda. Mr. North is second, with large plants, but somewhat rough, and Mr. Monk, gardener to W. A. Smee, Esq., Woodbury Down, third.

Of cut blooms there is an excellent show, though perhaps the competition is not so keen as in former years. The best twenty-four come from Mr. Rowe, Roehampton, who has Mrs. G. Rundle, Dr. Brock, Prince of Wales, Princess Beatrice, Jardin des Plantes, Empress Eugénie, Antonelli, Lady Slade, White Globe, Golden Dr. Brock, John Salter, Lady Talfourd, Lady Harding, Gloria Mundi, Venus, Maréchal Duroc, Novelty, Plutus, Prince Alfred, Empress of India, Rev. J. Dix, and Cherub. Mr. Berry, Roehampton, is second.

For twelve cut blooms Mr. Berry, Roehampton, is first with fine examples of Mrs. G. Rundle, Lady Harding, Empress of India, General Bainbrigge, Jardin des Plantes, Prince Alfred, Queen of England, Venus, Cherub, Princess of Wales, Novelty, and Prince of Wales. Mr. Rowe is second with a very good stand. Messrs. Goddard and Beadle also take first and second prizes for stands of twelve blooms. The first prize for six was awarded to Mr. Howe, Shacklewell, Mr. Berry being second; and in another class for the same number the prizes go to Messrs. Beadle, Goodenough, and Goddard in the order in which they are named.

The best twelve large Anemone-flowered varieties are furnished by Mr. Rowe and Mr. Forsyth, who take equal first prizes; and for Anemone-flowered Pompons, Mr. Howe is first, Mr. Forsyth second, and Mr. James third.

In addition to the Chrysanthemums, Mr. Trushell and Mr. W. J. Smith contribute good Apples, Pears, and Nuts. Mr. James sends bouquets of dried flowers, as well as a Prickly Cayenne Pine Apple, Muscat Grapes, and Apples; and Mr. Heard, gardener to Mrs. A. Grosvenor, large Uvedale's St. Germain Pears.

Several new varieties of Chrysanthemums are shown, but these have all been noticed before, except a Pompon, called Cavoction, with large purplish rose flowers, which comes from Messrs. E. G. Henderson and Son, and which received a first-class certificate.

GROWING CELERY IN BEDS.

Having a large family to supply from a small garden, I am obliged to employ every means I hear or think of to increase the amount of its produce. This year, for the first time, I grew most of my Celery in beds 6 feet wide, with five rows in each bed, the soil of the bed being taken out 18 inches deep, and then replaced with a foot of good manure. Manure water was also copiously supplied during the summer. The plants were kept tied up, their suckers cleared off, and in due time they were earthed up. Now for the result: from first to last the two outside rows were much dwarfer and of greater substance than the others, which I ascribe to these rows being most exposed to the sun and air; while the three inner rows shot away at a remarkable rate. This being a new system in our part of the country, it was the admiration of all who saw it, and again and again I was called by my better-half to give the necessary information respecting it, and all pronounced the system a great economy. For myself, however, I thought this questionable, and when taking-up time came, the outside rows had thick, solid, crisp stalks, while the middle three

rows were anything but good, 3 feet high, and having thin, soft, pithy stalks, being upwards of not one-third so good as the others. Growing in a very moist soil and atmosphere, they are already rotting very fast. I fear if I had not acted with some precaution, and put in a few single rows before the turn of the day, I should have been without any Celery.

I have no doubt the bed system may do well in dry gardens, and I intend another year to modify the system of planting, as it is well worth a fair trial. I will have three rows instead of five, and plant a dwarf kind, such as the Incomparable. Thus, more air will be admitted to the middle row, which seems to be the great drawback. Although Celery delights in moisture, and to a certain extent in shade, it must have plenty of air to be good and stand the winter well. As I am not writing for any other purpose than to learn, I ask some of your readers who have succeeded in the bed system to give, through "our Journal," their experience.—J. T., *Maesgwynne, South Wales.*

CHRYSANTHEMUMS AT MR. FORSYTH'S, AND THE TEMPLE GARDENS.

Mr. Forsyth's Brunswick Nursery, Stoke Newington.—The display of Chrysanthemums in Mr. Forsyth's show house is always excellent, and this year it is better than ever. The plants are now in full bloom, and the mass occupying the centre of the house forms a beautiful sight, for though perhaps a little crowded, owing to want of space, the varieties are well distributed so as to afford a diversity of colour, and many of the blooms are remarkably massive. Conspicuous among these is Princess of Wales, a most beautiful flower, which is a favourite with everyone, the white being delicately tinted with lilac rose. Several blooms of this are quite 5 inches in diameter. Empress of India and White Globe, also white, and Prince of Wales, purplish violet, have splendid blooms equally large. The following are also very fine:—Rev. J. Dix, St. Patrick, General Harding, General Bainbrigge, John Salter, Ali Babi, Golden Beverley, Jardin des Plantes, Gloria Mundi, Aureum multiflorum, Prince Alfred, Lord Derby, and Virgin Queen, the purest of whites. Mrs. Heale is another very fine pure white flower, a sport from Princess of Wales, which it resembles in all but its colour. Mrs. George Rundle, though not equalling the preceding in the size of the flowers, fully maintains its character for free-blooming, and forming admirable specimen plants, and for this purpose Dr. Sharpe is equally good in its colour. Of both of these Mr. Forsyth has large specimens grown so evenly and well, and so abundantly covered with flowers, that even he may be proud of them. Somewhat resembling Dr. Sharpe in colour is a seedling with larger flowers, which is very promising. Princess of Teck, delicate blush, is a finely incurved flower of last year, and another very pleasing but older variety is Empress Eugénie. We also noticed Isabella Bott, white tinged with lilac; Enamel, delicate blush; and Miss Mary Morgan, a new delicate lilac, broadly incurved kind, first shown last year at Stoke Newington. Mr. Evans, Mr. George Haskin, and Blonde Beauty, new kinds sent out in the spring of this year, are coming forward, but have not yet attained perfection.

Fine specimen plants are placed on the side shelves in the show and other houses, consisting of Mrs. G. Rundle, Dr. Sharpe, Defiance, Annie Salter, &c.; and among Pompon kinds, the different colours of Cedo Nulli, Sainte Thais, Andromeda, and Golden Aurora, are represented by admirable specimens. Several of the large-flowered Anemone varieties, as Madame Godereau, Gluck, &c., are particularly fine this year, and interspersed among the mass of incurved varieties in the show house are some of the showy Japanese varieties, serving to increase the diversity of form and colour. The Daimio, Red Dragon, and Comtesse de Beauregard are very bright and effective.

The Temple Gardens.—Mr. Broome, in the Inner Temple, has an unusually good display, and to the varieties printed names are attached. This adds much to the interest of what has become one of the sights of London, and which, be it remarked, is visited by thousands of all classes. Chrysanthemums about London are generally very good this year, and Mr. Broome grows so many, that to give the names of all the varieties which are well represented would occupy a large amount of space. We must therefore confine ourselves to mentioning, as a few of the best, Lord Derby, Mrs. G. Rundle, General Slade, White Globe, Beverley, Vesta, Golden Hermine, Jardin des Plantes, Guernsey Nugget, Golden Eagle, Prince of Wales, Prince Alfred, Nil Desperandum, and Progne, the last, which is most brilliant in colour, being freely introduced, especially in the back row. Several of the new Japanese varieties seem also to be very attractive to the public. In the beds on the lawn the Pompons are in good bloom, especially the different colours of Cedo Nulli, Aigle d'Or, Salamon, and Aurore Boréale.

Mr. Dale, in the Middle Temple Gardens, has also a show of Chrysanthemums, though much less extensive than Mr. Broome's as regards the large-flowering kinds. Of these Gloria Mundi, Venus, Beverley, Mrs. G. Rundle, and Cherub are the best. Marabout, white, with fringed florets, is very pretty. The large circular beds of Pompons are excellent, the kinds consisting of White and Lilac Cedo Nulli, Aurore Boréale, Duruflet, Drin Drin, Madame Pépin, Général Canrobert, and one or two others, together with Mr. Murray. There are also two good banks of these and other kinds.

BRICK EDGINGS FOR GARDEN WALKS.

I was glad to observe in the columns of your instructive Journal, your recommendation to "A. B.," of Mr. Robson's mode of forming an edging. Permit me, therefore, to add my testimony in corroboration, as I adopted it about three years since, and although as yet on a somewhat limited scale, still sufficiently to confirm my good opinion of its merits and worthiness of unlimited adoption, combining, as it does, the useful and ornamental, especially when the edging is constructed of dark blue Staffordshire bricks. These may be coated with stone-coloured paint brushed over each alternate angle, with a little white sand sprinkled over it, to deaden the gloss of the paint. This produces a very pleasing and decided effect, the paint will remain in good condition for several years, and its cost is almost nothing. The uninitiated are invariably puzzled prior to inspection as to the composition of this kind of edging, entertaining the idea that it is terra-cotta. At the terminations of each line of edging, I insert one of the bricks vertically, thus forming a suitable and substantial finish to the bricks set obliquely.—W. Gardiner.

SOLANUM CAPSICASTRUM CULTURE.

Your correspondent "G. H.," page 349, wishes to know when to sow Solanum capsicastrum, and likewise, I suppose, how to grow it afterwards. I have plants averaging 18 inches high, 16 inches through, and having on each a hundred berries, which are just changing colour, contrasting beautifully with the dark green foliage, which is seldom seen when the plants are grown in the usual way—*i.e.*, in pots throughout the summer.

Sow about the middle of February in light rich soil, and place the pots in a temperature of 60°. As soon as the seedlings are large enough to handle prick them off into pots or pans at about 1½ inch apart. When they begin to be crowded, pot them off singly in 3-inch pots. Keep them in the same temperature until they are well established in their pots, and then gradually harden them off, the same as you would bedding plants.

About the latter part of May plant them out in an open piece of ground 18 inches apart each way. All the attention they require during the summer is to keep them free of weeds, and if the weather should be very dry give a good soaking of water occasionally. About the end of September lift them carefully, and pot them in some rich loamy soil, adding a good portion of river sand to keep the soil open. Pot them firmly in large 32-pots, set them anywhere in the shade out of doors, and give them a good soaking of water at the roots, and frequently sprinkle them overhead until they are established in their pots. They may then be placed in the full sunshine, and afterwards removed to the greenhouse, where they will make a fine display all through the winter and spring months. Larger pots can be used, but not smaller ones, as they cramp the roots too much. I was obliged to pot mine in small 32's, as I grow them chiefly for table decoration, and larger pots would not go into the vase that is used.

Solanum pseudo-Capsicum may be treated in the same way, with this exception—it requires to be stopped when about 2 inches high, otherwise it will be a foot or 15 inches high before it begins branching, and will have the appearance of a standard.

It is necessary to feed the plants with liquid manure when

they become established, otherwise the heavy crop of fruit will exhaust the plant and cause the leaves to turn pale.—W. Hills, *River Mead House, Sunbury, Middlesex.*

PLATYCERIUM (ACROSTICHUM) ALCICORNE.

I have often been surprised that this gem is not more extensively grown; it is of very easy culture, has a very pleasing appearance, and with a little attention amply repays one for the time bestowed on it. I have seen it growing on a small piece of board. I grow mine on small roots; some I hang up, and I place one here and there about my stove. I have one very large specimen. I obtained a large Alder root—it filled a large barrow; this I filled with sphagnum moss, peat, and cocoa-nut fibre; I then planted small plants over it, and they now form a beautiful object. The lovely fronds and the large frill are very novel. Here and there pieces of the root projecting, covered with moss, add greatly to the beauty of the whole. When showing anyone round my stove I have often heard the remark, What a lovely Fern! It never fails to be remarked, having such a striking and chaste appearance. I think when plants of it are placed here and there about our stoves they serve as a relief to other subjects. Growing, as it does, on the root, it looks more like nature. The Stag's-horn Fern is an old favourite of mine, and I think no collection of Ferns complete without it.—F. P. L.

VINERY HOUSE, ALLERTON.

(*Concluded from page* 362.)

We now come to the boiler house. It is large and lofty, and situated in the angle formed by the houses on the left, which I have endeavoured to describe, and those which extend directly south-west from the boiler-house 320 feet. Here we have two "double-tubular boilers with cylindrical water-jacket furnaces," heating 6000 feet of 4-inch piping; and that they are kept going is evidenced by the fact that Mr. Clarke forces so as to have Grapes and Peaches ripe in May. Mr. Pearson should come and see these two boilers; he would not have said, when writing of tubular boilers, "I would not have one for a gift." I have tried more than one kind of tubular boiler, had replaced by tubular boilers those which our "best gardeners give preference to," saddle boilers or modifications of them, and found one tubular boiler heat as much piping, or give as much heat, as half a dozen fires required for the others. The most efficient boiler I have used is that form of the tubular boiler with the water-jacket, which gives it a great advantage over all tubular boilers, and I may say every kind of boiler. This boiler is of Mr. Clarke's invention. The two have been in use some time, and are of the kind known as "No. 3, double tubular," price £30. That they do their work satisfactorily was evidenced by what I saw in the houses, and for economy in consumption of fuel they are unequalled, as Mr. Clarke's coke account plainly shows. The cost for coke is £10 per year, or on an average £10 per quarter. From this we must deduct for coke consumed in the house, kitchen, gardener's cottage, by the boiler for steaming food for the horses in winter, and by the boiler in the cellar which heats the 800 feet of 4-inch piping in the conservatory, greenhouse, and house, which piping is independent of the 6000 feet attached to the two boilers; for these items I cannot say less than £10, so that the two boilers heat, to boiling point if necessary, 6000 feet of 4-inch piping, at a cost of £30 a-year.

The boiler house was in good order, and not a place for rubbish and dirt as one not unfrequently finds it. Outside the boiler house a large tank was pointed out that takes the water from the roofs, it being made large enough to hold a sufficient supply to last through the summer. Some idea of the water required may be formed, when it is stated that one of the Vine borders alone requires 800 gallons each time it is watered. None but rain water is employed for watering purposes. It is to be regretted that all proprietors of gardens do not make provision for collecting the rain water from the buildings, so as to leave no excuse for allowing plants to wither and die, or the leaves to become covered with insects, owing to the want of a proper supply of water.

Adjoining the boiler house is the stove. It has a central bed, with hot-water pipes for furnishing bottom heat, a good wide shelf in the front, and a walk at back and front, and I noticed the same liberal amount of piping as in the other houses, which certainly is an example that might be advantageously followed. The back wall and part of the roof were covered with that best of all stove climbers, Stephanotis floribunda, and Ipomœa Horsfalliæ, whose rich crimson flowers were very attractive. There were also splendid plants of the sweetest-scented of all flowers, the double-blossomed Gardenia florida, clustered with buds, and having bright and shining foliage; and G. Stanleyana, in flower. These plants are not half so much grown as they deserve to be. Good plants of Clerodendron Thomsonæ, trained to a sort of upright conical wirework, were in flower, the rosy purple flowers contrasting well with the cream-coloured bracts. Franciscea confertiflora or laurifolia, with handsome foliage, struck me as being very different from the ill-formed straggling plants generally seen, with foliage devoured by thrips and scale. There were Allamandas, Ixoras, and many other kinds of plants of merit, but I had not time to note them.

Next to the stove is another early vinery 52 feet long by 20 feet wide, having a border similar to those of the other two vineries, it being made both inside and outside the house, chambered, and having hot-water pipes beneath it. The wood of the Vines was very hard, and the buds very prominent. These Vines had long been at rest, and from the appearance of the buds it would have been no difficult matter to have started them to ripen the fruit in January, but Mr. Clarke does not wish to force so early, as he can keep the late sorts in good condition until May, when the early houses yield fruit. The varieties are principally Black Hamburgh and Golden Hamburgh, with a few Buckland Sweetwater and Trentham Black. The Golden Champion is also here under trial. The house was crammed with pot Vines of late sorts, such as Lady Downe's, Alicante, and Barbarossa, which Mr. Clarke fruits extensively and successfully in pots.

The late vinery is 52 feet long by 20 feet wide, and its border is vaulted like all the others. It extends both outside and inside the house, and is heated by nine rows of hot-water pipes beneath, and there is the same number of pipes for top heat. The border is entirely above the path, which is at the back of the house, and on the parapet or wall keeping up the soil of the border are grown Vines in pots, a row of them as close as the pots will stand touching each other, and the canes being trained upright. On the other side of the path, against the back wall, is another row of Vines in pots, the pots resting on flags, which form the cover of the passage for the hot-water pipes that go through these houses to the Peach houses beyond. Small openings in the sides of the passage regulate the heat according as it is required for warming the flags, so as to give bottom heat to the Vines, or to admit heated air to the house. The Vines on the sides of the path are quite a sight, carrying from eight to thirteen bunches each, which, though not so large, nor with berries so large as those on the Vines in the borders, are perfect in colour, and large enough for a gentleman's table. The varieties were Lady Downe's and Alicante. In these pot Vines I noticed that the greater the number of bunches the smaller these were, and some Hamburghs had the inevitable red of an overcrop. The bunches of many would weigh more than 1 lb.

The permanent Vines were thriving exceedingly well, carrying a heavy crop, but not too heavy, as was evidenced by the wood they had made this year, and that being fully ripened. Mr. Clarke experiences no difficulty in doing this; from the warmth and raised border he has a perfect control over them. Barbarossa, an eye in 1866, carried two bunches, and had a cane 3½ inches in circumference, with eyes like nuts, and seeing their wood I do not doubt Mr. Clarke's statement, that he had last year a bunch of this kind 4 feet in circumference. This year, however, both Barbarossa and the Muscat of Alexandria have not done so well, owing, he says, to their not having had sufficient water last season. The Muscat and Barbarossa, Mr. Clarke finds, will not bear nearly so much drought as Lady Downe's and Alicante; or, in other words, the last two are not such gross feeders as the former two. When grown in the heated border, Mr. Clarke informs me that the Barbarossa, so far from having a thick skin, as it is often represented to have, has a skin as thin as a Hamburgh, and is a Grape he prizes highly, both for its keeping qualities and flavour.

Lady Downe's, an eye in 1864, is carrying twenty-two bunches of above a pound each, with large, well-swelled berries, perfect in colour and bloom, and notwithstanding the heavy crop the cane is very strong (3 inches in girth). Here, may I ask "R. M. W." if I understand him correctly, that the canes he writes about in his highly interesting and valuable article, page 219, are of the current year? the measurement referring to this, and not last year's wood. For a Vine to have "canes, three and four to a Vine—the Vines also with a crop—

16 to 20 feet long, and 2¾ inches in girth," seems incredible. I should also be obliged by being informed of the variety making such an extraordinary growth, not of length, but thickness of cane. Lady Downe's, notwithstanding Alicaute and Barbarossa having larger bunches, is, to my eye, by far the best; it has a noble appearance, and what is wanting in size is made up for in symmetry and finish. The Vine is also a great bearer. One of this sort planted in 1867, had in 1868 six bunches: this year it has thirteen. Too much cannot be said of this Grape; if the white sort be anything like it, it will be a boon indeed.

Alicanto is also precocious. A Vine from an eye in 1866 carries this year four bunches averaging 11 inches across the shoulders, and 12 inches in depth, splendid in colour and bloom. Trebbiano, also an eye in 1866, has two bunches; one 15 inches long, and 17 inches over the shoulders, the other 13 inches deep, and 17 inches over the shoulders. Muscat of Alexandria bears immensely, but the bunches are not equal in size to those of former years.

Mr. Clarke's opinion of the late Grapes runs thus—Lady Downe's first, it keeps so well; Barbarossa second; Alicante third; Trebbiano fourth; Muscat of Alexandria finest of all for flavour, but for keeping fifth; Black Hamburgh sixth.

There are other sorts, as Black Hamburgh, which ever since it fruited has had rusted berries, and it colours badly, which seems unaccountable, as all the others do so well. To all the vineries air is admitted in front through openings in the front wall, the pipes having a wrought-iron sheathing pierced with holes, there being about an inch cavity between the hot-water pipe and the plate-iron sheathing, and a sort of funnel, also of iron plate, connects the casing round the pipe with the openings in the wall. These are very useful for admitting air in dull and frosty weather, the cold air being heated before it enters the house by its coming in contact with the hot-water pipes. There is also front and top ventilation.

I have omitted Mrs. Pince; it is here succeeding well. Some write of it as a weak grower. It certainly is not a gross grower, but I have had an opportunity this season of seeing daily half a dozen of it, and one in a house along with Muscat of Alexandria, Alicante, and Black Hamburgh, and along with Foster's Seedling, Trovéren Frontignan, Buckland Sweetwater, and Black Hamburgh, and in both cases it has been the first to reach the top of the house or rafters.

There is an open apace between the last-named vinery and the Peach houses, in which are stored a number of Vines in pots for early forcing—put out, as it is termed, to harden, but in reality to induce rest. The Peach houses have the same aspect as the two vineries last named—viz., facing the south-east, and they are lean-to's, but the vineries have a short back light. The first Peach house is 84 feet long by 12 feet wide. The border is partly inside and partly outside, and in both instances above the ground level. It is 4 feet deep, and composed of the top spit of the ground about, a not very strong loam, and to this was added about one-sixth of marl. Six rows of 4-inch pipes serve for heating, the fruit being ripe in May. No manure was mixed with the soil, and no manure water is applied; and neither for Vines nor Peaches is Mr. Clarke any advocate of much manure in a solid or liquid state, and he attributes none of his success to manure. The trees were planted late in the spring of 1865. Mr. Clarke, having deferred it so late, had to be content with such trees as he could get. The result has been in 1869 the first prize for Peaches at Liverpool, and the first and second prizes for Nectarines, also the first prize at York for Nectarines. Some of his Peaches weighed 9½ ozs. The trees look as if they had been planted a dozen years. One Elruge Nectarine tree covers a space of 24 feet by 14 feet, and has a stem 1 foot 8 inches in circumference at the base, below the bud; and one branch, originated in 1865, is 9½ inches in girth. The trees and their foliage are in perfect health, no red spider—in fact, nothing deleterious to health, and though the red spider had appeared, it was speedily brought under, and also the scale, which ever keeps putting in an appearance, by a syringing with Mr. Clarke's compound.

Mr. Clarke practises what I may call the long-rod system of pruning and training Peach trees; indeed, he follows no particular mode of training, only it is a sort of fan, his object being to obtain fruit of good size and quality, and to cover the space in a short time. All the pruning they receive consists in cutting out the old and weak wood, and replacing it with new shoots, which receive no stopping as far as their leaders are concerned, but the laterals have their points pinched out at the first leaves, and they are kept closely pinched in to one joint. The shoots thus treated attain an immense length in a single year, some shoots of this year's growth being from 8 to 10 feet long, the whole length clustered with bloom buds. The trees grow so vigorously that they are crossing each other, though there are but seven trees in the house. The back wall is covered with them; but the trees there do not bear fruit, or very little, and the Castle Kennedy Fig on the back wall is equally unproductive. It grows very strongly, and no doubt its roots require to be more confined to induce fertility.

Next we enter a Peach house, 54 by 12 feet, corresponding with the last, but the growths are even more extraordinary. The trees were planted in 1866, and one of them has a 27-feet spread of branches, while a shoot of this year's growth is fully 10 feet long; but there is no unripe wood, and no lack of fruit buds for another year's production.—G. Abbey.

NOTES AND GLEANINGS.

There is at present to be seen in bloom at the Royal Horticultural Society's Gardens, Chiswick, that most magnificent of all Dahlias, Dahlia imperialis. The specimens are a little more than 12 feet in height, much branched, each branch terminating with a glorious panicle of from ten to twenty exceedingly beautiful white flowers, forming at this dull season one of the most splendid objects to be seen. We understand that it is to be exhibited at the next meeting of the Floral Committee on the 16th inst., so that our readers will then have an opportunity of seeing this magnificent plant.

REMARKS ON SOME BEDDING PLANTS.

Six degrees below freezing point on the night of October the 27th, and a fall of snow on the following day, suddenly brought the bedding season of the present year to a close, and as far as my experience goes, the unfavourable spring and the variable summer temperature have severely tested some of the more delicate kinds of bedding plants. Letters which reached me in July last, from some friends in the eastern and northern counties, informed me of the difficulty there was in inducing even the more hardy sorts of bedding plants to grow at all, and many were killed outright; while the planting of such tender subjects as Coleuses, Iresines, and Amaranthuses, was not attempted until the time arrived for a favourable season to have brought them into great beauty.

As the season has not proved one of the best, it may be both interesting and instructive to those who have not yet made their arrangements for another year, to give the accompanying plan of a flower garden which has come under my notice several times during the summer, with the description of the planting, adding a few notes on the merits or demerits of the materials employed.

Bed 1 was planted in imitation of a star having eight points, and the angles filled in with Lobelias. The bed is 20 feet in diameter, and the colours were remarkably effective, especially at a distance; but as the Lobelia is liable to become shabby early in autumn, and at its best is not effective when planted next the grass, I think a more distinct colour would have been better—say the old but beautiful Verbena venosa. I remember once seeing this bed planted thus—centre Centaurea candidissima, the star completed with Mrs. Pollock Pelargonium, and the angles filled in with Coleus Verschaffelti—a very lively and pleasing arrangement.

Beds 2 and 3.—Here the dark velvety brown of the Coleus in contrast with the bright and beautiful foliage of Mrs. Pollock, makes this a very effective arrangement for any flower garden. I have seen a bed this summer where the Tagetes signata pumila took the place of Mrs. Pollock in a similar arrangement, and I thought the orange, yellow, and brown-spotted flowers of the Tagetes improved the colour of the Coleus, and gave a better effect to the whole bed.

In beds 4 and 5, the bedding qualities of both the Perilla and Koniga are well known, but I may remark that the cerise-coloured flowers of Pelargonium Flower of Spring, peeping out from among the tufts of the Koniga, were thought an improvement.

If the old favourite in beds 6 and 11 possessed a better-shaped truss and more substance in the flower, so as to stand out more boldly, it would be an improvement; as it is, it is not easily excelled. Some complain that young plants of this Pelargonium never flower so freely as older ones. I experienced

the same failure until circumstances caused me to transplant a bed of them after they had made a good growth, and the result was an abundance of bloom and less foliage. Since then, if I find them becoming leaf-proud, I lift them with the spade, and plant again immediately, and beyond losing a few leaves the experiment has the desired effect.

Beds 7 and 10. This distinct species of Verbena appears to possess a charm of its own; the colour, a lovely violet, is not approached by any other inhabitant of the garden. It appears to increase in beauty as the autumn comes on. When pegged down at an early stage of its growth, it does not exceed 1 foot in height; and its small flowers supported on stiff flower-stems, withstand the wind and wet admirably, as the storm of September 11th did it no injury.

The Petunia in beds 8 and 13 grows too coarse and tall for such small beds, and in larger ones it is only attractive in fine weather. A storm soon disfigures its flowers, and towards autumn it is not in the least attractive. It is, however, a good plant for the background of mixed borders.

The Tagetes in beds 9 and 12 was grown as a substitute for the yellow Calceolaria, and in some respects it is a good one; it is a constant and profuse bloomer, even in the driest of weather, and in hot dry soils where the Calceolaria is so liable to fail, this plant is to be preferred; no wet or wind appears to injure it.

I now come to the mixed beds, which were purposely arranged to give increased effect to the five beds in the centre of the garden, and also those four beds in the centre of each of the two wings.

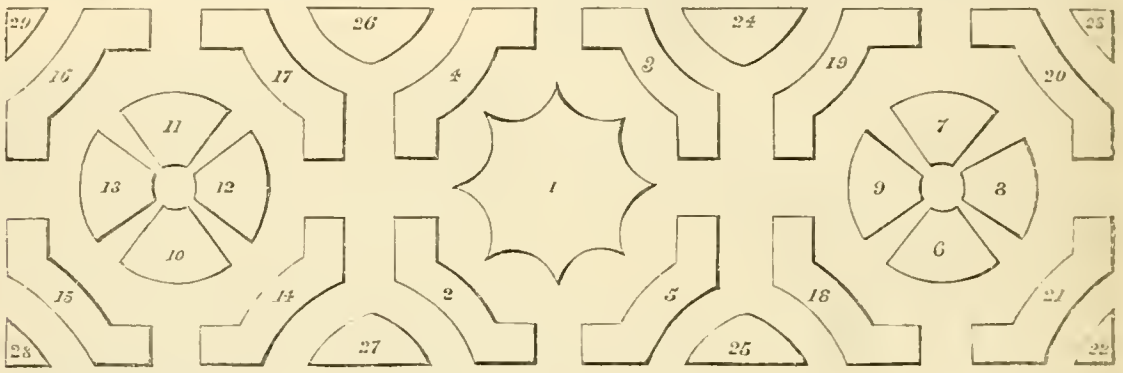
Nos. 14 and 16 have Pelargoniums Madame Rudersdorff, Cybister, and Rebecca, with here and there a plant of the Tagetes for centres, while the outsides have some of the dwarfer variegated Pelargoniums, such as Flower of Spring, Bijou, Lady Plymouth, and Crystal Palace Gem, with some dwarf Lantanas, as Lutea rosea, Alba grandiflora, Impératrice Eugénie, and Delicatissima.

In beds 15 and 17, the centres are occupied with the Intermediate Stocks, of many colours, which flower magnificently throughout August and the three following months, and for the outsides the pretty dwarf Victoria Aster, mixed Portulacas, and Lobelias.

Nos. 18 and 20, at the opposite end of the garden, contain Pelargoniums Indian Yellow, Cerise Unique, and Rebecca, with the white flowers of Mrs. Holford Verbena rising above the foliage of the Pelargoniums, as centres, while the outsides contain a mixture of Centaurea candidissima, Purple King Verbena, and Mrs. Pollock Pelargonium.

Nos. 19 and 21, Phlox Drummondi. These beds present a great variety of colour, which is effective and pleasing to the eye. To keep the Phloxes dwarf for small beds, they should be pinched once before planting out, and afterwards kept pegged down; they will then not exceed 1 foot in height.

The Pelargonium in bed 22 is a great improvement on Cloth of Gold; it is a vigorous grower, and is very effective both as



1. Centre Thuja aurea, surrounded by Iresine Herbstii, and a band of Centaurea candidissima, Lobelia speciosa next the grass. The circles surrounded by 6, 7, 8, 9, and 10, 11, 12, 13, also have Thuja aurea in the centre.
2, 3. Pelargonium Mrs. Pollock, edged with Coleus Verschaffelti.
4, 5. Perilla nankinensis, edged with Flower of Spring and Koniga maritima.
6, 11. Pelargonium Brilliant.
7, 10. Verbena venosa.
8, 13. Petunia nyctaginiflora.
9, 12. Tagetes signata pumila.
14, 16. Mixed beds.
15, 17. Ditto, ditto.
18, 20. Ditto, ditto.
19, 21. Mixed beds.
22. Pelargonium Crystal Palace Gem.
23. Lobelia speciosa.
24. Veronica speciosa variegata.
25. Pelargonium Rebecca.
26. Pelargonium Indian Yellow.
27. Stachys lanata.
28. Mrs. Holford Verbena.
29. Fuchsia Golden Fleece.

regards its flowers and foliage, its growth keeping close to the ground.

No. 23. This plant, so well known as a bedder, needs no remark.

The Veronica in No. 24 is one of the prettiest variegated plants in the garden, and should be more grown; it is very effective throughout the autumn, as it bears a few degrees of frost without injury.

The Pelargoniums in beds 25 and 26 are now so well known that I need not describe them, but I may just remark that Indian Yellow is one of the best flowering plants we have in the flower garden.

The plant in bed 27 should be more grown for its hardiness and dwarf habit, while its silvery lamb's-ear-like foliage makes it very attractive in the flower garden or shrubbery borders.

Bed 28. Of this and other Verbenas I cannot say much in their favour as distinct beddera; most of the varieties cease to be attractive much too soon for other plants. They are, however, very useful in mixed borders to supply cut flowers.

The Fuchsia in No. 29 has proved a failure with me. I could not with all my attention coax it into forming an attractive plant. It goes off very much in the same way as Pelargonium Cloth of Gold, for the plants appear to be less now than when first planted. It will grow in the shade best; even there it loses much of its leaf-colouring, which renders its flowers less attractive.

The effect of the whole arrangement, when viewed from either end, gave considerable satisfaction; but most of the beds being small (4 feet wide), the use of anything but dwarf-growing plants was out of the question. However, as the arrangement of the planting was on the cross-balancing system, every bed had more distinctness, which is always of importance in a design for small beds.

Of other arrangements that I have noted as worthy of imitation, was one in which the new Abutilon Thompsoni was used. The ground colour of the leaf of this plant is a bright green, which is beautifully mottled with yellow. It appears to retain its colours well when planted out, and grows with considerable vigour. Around it was a band of Amaranthus melancholicus ruber, with an edging of the pretty dwarf-growing Dactylis glomerata variegata. Another bed had Pyrethrum Golden Feather, dotted over with Lobelia speciosa.

There is another new introduction which I think will become a popular bedding plant—viz., the Iresine Lindeni. I think it the best of all the Iresines; the foliage is dark red, beautifully veined, and the growth being vigorous, the markings become well developed. I grew a few plants in common garden soil, fully exposed to the weather, and it proved so satisfactory, that I shall use it more extensively another season. The markings being only on the upper surface of the leaf, when the foliage in the sun is waving in the breeze it presents two or three shades of colour, which are pleasing to anyone.

Another valuable dwarf-growing plant is the Convolvulus mauritanicus; it appears to be quite hardy, and if allowed to

remain two or more years in one place it covers much ground and flowers most profusely. It may not be generally known that this makes an admirable pot plant. I once took up a few plants from the garden at this time of the year, potted them, and kept them in a cold frame until February, when all the old growth was cut off, and they were placed in the greenhouse on a shelf near the glass; they grew remarkably fast, and soon produced a profusion of flowers. They are most suitable for suspending where the shoots can hang at ease all round the pots.—THOMAS RECORD, *Lillesden, Hawkhurst.*

WORK FOR THE WEEK.

KITCHEN GARDEN.

WHEEL manure upon vacant ground when the weather is suitable, and when it can be done without injuring the walks; also turn up all spare ground so as to expose it to the action of the weather. For land that has been long cropped with vegetables, a dressing of fresh loam would in many cases be preferable to manure, and where it is wanted it should be obtained, in order that advantage may be taken of frosty days for wheeling it upon the ground. Where fresh soil cannot be obtained, charred vegetable refuse, such as prunings of shrubberies and edgings of walks, may be cheaply made to form an excellent substitute.

FRUIT GARDEN.

Do not let Pears become overripe before being used; also look over the whole stock as often as time can be spared, removing any fruit that exhibit symptoms of decay, and put them aside for immediate use. Any of the choicer varieties of Pears that do not ripen properly in the fruit-room should be removed to a warm dry room for a few days; this will be found to greatly improve them. Keep all fruit as cool and dry as possible; if frost is excluded from the house the air can scarcely be too cool when the object is to preserve fruit plump and sound as long as possible.

FLOWER GARDEN.

Dahlias killed down to the ground should be taken up and placed roots upwards under cover to dry, preparatory to being stored for the winter. Chrysanthemums, which are everywhere flowering finely this season, must receive careful attention so as to preserve their beauty as long as possible. See that coarse-growing plants which may be encroaching upon their weaker neighbours are reduced so as to occupy their proper places. Valuable plants, as variegated Hollies, Rhododendrons, &c., if not growing as freely as it is desirable that they should do, would be benefited by a liberal allowance of rotten manure or well-decayed leaf mould applied as a top-dressing, covering it with a little fine soil, and working it into the ground around the ball towards the extremities of the roots. Rhododendrons and what are generally termed American plants, bear removal so well that these where not growing satisfactorily should be taken up, the ground well prepared by a liberal addition of peat or leaf soil, and replanted. Gladiolus bulbs may now be planted; choose a warm, thoroughly drained situation, work the soil well by deep digging, and add plenty of rotten manure; elevate the bed or patch a few inches above the ground level; plant the bulbs 5 or 6 inches deep, and 6 inches apart, surrounding them with 1 inch of sand before covering them with soil; and protect during the winter against excessive wet and frost with a thick layer of sawdust, old tan, dry litter, an old carpet, thatched frames, or tarpaulin. The last three coverings must be removed during favourable weather, and the other coverings should be entirely cleared off when the plants appear. Ranunculuses may also now be planted. The situation of the beds should be cool and somewhat moist, at the same time there should be good drainage. The most suitable soil is a hazel loam. If, therefore, the natural soil be unsuitable, remove it to the depth of about 2 feet, and to the width of 4 feet, replacing it with rich loam from an old pasture; this ought to be firmly trodden in, and should form the foundation and principal portion of the bed. Next should come a liberal dressing of well-decayed manure, mixing it a little with the under soil; and over this, for the top of the bed, should be a layer of soil 6 inches deep for planting the tubers in. The soil for this purpose should be stiffish fibrous loam, mixed with well-decayed cow dung and leaf soil. Draw drills 6 inches apart and 2 inches deep, with a small hoe, and plant the roots 4 inches apart, with the claws downwards, gently pressing them into the soil. The crown of the tubers should be at least 1½ inch under the surface of the bed.

GREENHOUSE AND CONSERVATORY.

During weather like the present these structures will require very careful management. The best plan is to keep as low a temperature, and the air as dry, as can possibly be permitted—say a heat of from 40° to 45° at night, allowing it to rise a little in the day. In the mixed greenhouse let the young stock of Heliotropes, Pelargoniums, Cyclamens, and other flowers grown especially for winter, have light situations and regular attention as regards watering. The forcing-pit must provide at the proper season such plants as Rhododendrons, Azaleas, Persian Lilacs, Sweet Briars, Moss Roses, Sedums, Kalmias, Daphnes, Anne Boleyn Pinks, bulbs, &c. If the heat is furnished by fermenting materials, keep down accumulating damp and mouldiness by an almost constant ventilation, increasing the linings in order to raise the necessary temperature. Those who possess pits warmed by hot water will, of course, pursue a somewhat different course. Attend carefully to specimen hardwooded plants which it may be necessary to winter in the conservatory; most of these are impatient of fire heat and a confined atmosphere. Use no more artificial warmth, therefore, than is absolutely necessary. Take advantage of mild days to give air freely to cold pits, and keep the plants very sparingly supplied with water at the roots, so as to prevent the production of weak wood full of sap. Look frequently over anything subject to the attacks of mildew, and apply sulphur the moment this pest makes its appearance. See, also, that everything is perfectly free from insects. If there is any prospect of a scarcity of bloom in May next, a portion of the Achimenes and Gloxinias should be repotted at once and placed in gentle heat, choosing such as have been longest at rest, and a few Clerodendrons; Allamandas, a plant or two of Echites splendens, and Dipladenia crassinoda may also soon be started, but unless there are plants of these with well-ripened wood, and that have been some time at rest, there will be nothing gained by attempting to start them for some time, for in most cases it is difficult to maintain a sufficiently warm temperature to secure free growth if the plants have not been well prepared for an early start. A gentle bottom heat of about 80° or 85° will be of service by inducing healthy root action, and if this can be secured there will be little difficulty about obtaining free vigorous growth. Let Ixoras and all other hardwooded plants that have made sufficient growth be kept rather dry at the root, in order to check their growth and induce a tendency to form bloom buds, but do not let the soil in the pots become so dry as to affect the foliage. The conservatory being now gay with Chrysanthemums and other plants in flower, care must be taken in the very first place that all drip from the roof be avoided. To prevent drip, very little water must be applied in any way; give only that which is absolutely necessary at the roots. However, under these circumstances a very moderate amount of atmospheric heat must be afforded, for wherever heat is allowed there must be moisture in the atmosphere, otherwise the plants will soon show marks of debility; therefore, the proper conservatory management from the end of November until the early part of February, is to keep as low a temperature as possible consistently with the main object in view—viz., enabling plants with duly organised buds to develope their blossoms in a proper way.—W. KEANE.

DOINGS OF THE LAST WEEK.

WE have had a very busy week, but the work has been chiefly a repetition of that of the last few weeks.

In the kitchen garden Cabbages were earthed-up, Endive not required to be blanched uncovered carefully, Mushrooms in open sheds covered up more to protect them from the cold, and Cucumbers slightly smoked, and syringed next day with weak soft-soap water at from 110° to 120°—a liquid, by the way, easily made, and which no insect we have met with fancies, even thrips, the worst of all enemies to thoroughly beat, being destroyed by it when persevered with.

Bear in mind that at this season growing plants will stand less *smoking* and washing than in summer. It is different with plants at rest. One secret we must let out, as it is too good to be kept, and that is, a comparatively *low night temperature* is the great safeguard against insects of all kinds under glass. It will almost master one of the worst of all to destroy—the mealy bug. To thrive, this insect must have a high temperature; many pounds of tobacco and of sulphur, and bottles of expensive liquids, might be saved if we would only let our plants rest and recover themselves at night. A high

temperature from sun heat will rarely in these latitudes hurt a plant or a man if the first have free ventilation and the second have energy and determination to keep moving; but how can either be refreshed with a high temperature in darkness, when sleep and repose are necessary for both? Not long ago we were asked to look at Cucumbers in a house plastered with green fly, and no wonder, for the temperature at 8 P.M. was fully 80°. The temperature enervated the plants, and all the airing, &c., during the day could not make them robust. With two or three cool smokings and warm washings the insects were mastered, and the plants recovered in a night temperature of from 60° to 65°, and a day temperature of from 65° to 70°, with a gradual rise of 10° from sun heat, with little air, but that early given.

Two facts are here worth repeating. The first is, that the smoke from all combinations of tobacco cannot reach the plants too cool. Of all tobacco, shag is the safest and best. In these smoking days, however, we seldom use it, as it is always as well to keep temptation out of people's way; and hence, what little we use is confined to the paper and other preparations advertised, but in the case of all of them if the smoke reach the plant but it is sure to injure the leaves. The second fact is, that no plant ought to have its leaves damp when smoked with any preparation of tobacco. Fumigating plants when their leaves are damp, does more injury to them than to the insects. We have seen tender plants almost killed from being syringed before being smoked, although they would have been uninjured if the foliage had been dry.

Smoking, to be effectual and safe, must be resorted to when the first insects appear. Waiting until leaves become crusted or plastered with aphides is merely wasting time and tobacco. It would often be better to take all the leaves off or take the plants up. When so bad frequent smokings must be resorted to, as the smoke has no effect, we believe, on the eggs, which are quickly hatched by the heat. Soap or size water is more prejudicial to them, as shutting them up with a thin film from the air. Tobacco is often worse than wasted, because used too late.

When plants are planted out in pits, frames, and houses, unless individually they can be enclosed in a cloth, the house or pit must be smoked. In the case of plants grown in pots and moveable, it would be seldom necessary to smoke a house, and thus make it repulsive to many for a time, as one pot or a number of pots might be smoked and kept long enough in a small close box; and thus, often a pinch of tobacco or its preparations would be as serviceable as ounces or pounds in a larger place.

As against smoking we have great faith, when they can be had and applied, in nimble fingers and water-washings. The chief advantage of smoking is that the smoke penetrates into every joint and cranny. We have seen tobacco water, strong, too, used in washing shoots infested with insects, killing the insects, but often killing the shoots as well. Running the fingers and thumb along the shoots to squeeze the insects, and then washing all the remains off with a forcible jet from the syringe would be equally effective as respects the destruction of the insects, quite as pleasant to the operator, and more safe to the plant itself. Often when we went more from home we have been anxiously consulted by young ladies as to how they were to free from insects some favourite plant in a window, every unhealthy symptom making them uneasy as associated with omens as to the condition of the giver, far away, but not out of mind if out of sight. The tenth part of the time spent in merely looking and fretting would have been more than sufficient with their pliant fingers, with or without the help of a sponge, to clear away every insect and every particle of dust, and cause the renovated plant to become in very thankfulness a cheering forecaster of hopes and joys to come.

FRUIT GARDEN.

We have done little more than previously referred to. Strawberry pots out of doors are chiefly lying on their broadsides to escape the drizzling showers, and we have a little litter and straw ready to throw over them in frost. Pruning may be proceeded with, as the frost will cause the leaves to cling for some time to Apples and Pears. It is rather singular the frosts should have destroyed them when even Scarlet Pelargonium leaves and Peach leaves escaped. The leaves of the latter out of doors are still too green.

Planting may be proceeded with if the soil is damp enough. In this neighbourhood, at a few inches from the surface, it is far too dry and hard to permit of planting on a large scale being done with advantage. Nurserymen complain that they cannot take up trees and shrubs without the help of the pickaxe, and then customers grumble that the trees do not succeed well when removed from such dust-dry soil. Better under such circumstances to wait a little; or, if that cannot be done, let the roots be taken up with unusual care, be well soaked and puddled, and then packed in damp litter; and when planted the somewhat damp surface soil should be packed round the roots where watering cannot be resorted to. In general the surface soil is damp enough for 3 or 4 inches in depth, but in our case, and in this neighbourhood, wherever a crop has been grown, at a greater depth the soil is very dry, showing that much rain is wanted to give it its common amount of moisture.

ORNAMENTAL DEPARTMENT.

The same facts apply to the *removal of* all trees and shrubs in the pleasure grounds. Plants brought from a distance will require additional care on account of the dryness of the soil. Those merely moved at home can have that care supplied by attention to watering. For mere levelling, where no great depth has to be penetrated, no weather could answer better, and turfing done now will give no trouble afterwards, as the surface soil is quite damp enough. One reason why Scarlet Pelargoniums withstood the frost so well was greatly owing to the bulk of the roots being so dry. With respect to them we noticed a singular fact yesterday, when we cleared the most of them away. The weather being dry, the most of the leaves were as fresh and green as they were in August, the footstalks of the leaves were also seemingly quite sound; but though many of the stems looked green, the heart was frosted black or brown. Below the ground and a few inches above it the stems and roots were safe after passing through several frosts of 10°, and many slighter ones. These roots on an emergency, if taken up and packed closely in any place, however dark, would have broken well as the days lengthened and warmed in spring. Some of the beds, especially those of variegated Pelargoniums and Heliotropes, began to taint the air, and as the weather was dry, we cleared the whole off, making a bottom of a large rubbish-heap with the material, if we do not move it again to make the bottoms of hotbeds. In wet weather, proceeded with clearing and boxing the Pelargoniums taken up from the beds, and which have been kept safe under a little litter. We also potted, moved, and cleaned pot plants.

No weather could be better for making alterations in ground work. This is often more necessary in small places than in large ones, as the smaller the place the sooner it becomes monotonous to the eye. The smaller the place the easier it would be to change the general aspect every year. A great point would be gained, as respects pleasing variety, if every owner would study the nature of his own place, and gratify his own individual taste, and then we should not find in so many cases that one garden is so much a repetition of another. Even in the front gardens of suburban residences we should like to walk along, look through the open railings and see every little garden different in its arrangements from all the rest. A vast variety as to the arrangements of grass and gravel, plants and shrubs, could thus be seen in a single suburban street, and every owner would derive a higher gratification than in merely imitating his neighbour.

For planting Tulips and other bulbs no weather could be more suitable; much depends on having them in good condition. Had we a little garden, and could spare a little money, we should at least dip into Crocus collections. What can be more beautiful in spring, even in good patches of a colour, planting the bulbs or corms 2 or 3 inches apart? And what more interesting than contrasting these yellow, blue, white, and purple colours in artistic tracery, love-knots, &c.? Before the group beds were cleared and ready, all bulbs could be set on leaf mould, covered over, and lifted carefully when the ground is well prepared for them.

Zinc roofs.—In our corridors—glazed in front and zinc-roofed—such plants as the Coleuses, that made a fine appearance all the summer, began to show the effects of the cold, though not at all frosted, by dropping their leaves. They passed, however, the cold of Oct. 19th and thereabouts, and only suffered last week. The plants were too large for us to attempt to keep, as we have small plants which will take little room in winter. The full enjoyment of such corridors, however, depends very much on being able to keep them temperate by heating in winter, and this we hope to have done. Where only a temperate heat is required, and the mere keeping out of frost in severe weather, no mode of heating is so economical as by portable iron stoves inside the place. Where more is wanted, combined with comfort and freedom from the trouble of firing inside the

place, and the space is at all large, nothing will compare with heating by hot water. Thanks to husbanding sun heat, and the still enclosed air, our unheated corridors have kept plants better than we could have expected. Where there is a lofty glass roof and a thick wall at the back, such plants as Scarlet Pelargoniums have withstood rather severe frosts. With a lower curvilinear roof of zinc the frost made no impression on plants where the glass in front was protected by blinds; where not so protected at one end, Fuchsia leaves and Pelargoniums near the glass were crusted with frost last week. Something depends on colour, more than is generally imagined. The back wall is painted a light stone colour, which does not absorb heat quickly, but it radiates heat very slowly. Had we sunny days these walls would reflect light and heat more than they would absorb it. The top of the semicircular zinc roof inside is painted almost a pure white, which helps to make the place more light, as any rays that reach the concave roof will be reflected rather than absorbed. Zinc oxidises very slowly when exposed to the air, but still it oxidises, and to prevent it ours was painted outside as well as inside. By our suggestion it was first painted a rather light stone colour. Last time our opinion was overruled, and it was painted a dark lead colour—rather darker than the natural colour of the zinc. When of a light colour outside, the zinc-covered portion was warmer in winter than that covered with glass, partly owing to its greater closeness, as then the glazing was done with small squares. Since it has been painted of a dark colour, the zinc-covered portion is much warmer in summer and much colder in winter than that portion covered with glass. The white colouring inside does a little, but not much, to prevent the dark colour outside freely absorbing and freely radiating heat. Hence the zinc becomes very hot in a sunny day in summer, and very cold in frosty nights in winter. From the same causes, when zinc roofs are merely supported on rafters 2 or 3 feet apart, and the zinc is left of its natural colour, or painted of a dark tint, the outline of the roof, instead of being uniform, will be puckered into inequalities, marring its levelness, though not injuring it as a roof for protecting from wet.

This reminds us that a correspondent says, "I have a lot of old sheets of zinc lying about that had been used for roofing, 3 feet wide and 5 feet long, uneven but sound, with the exception of a few holes—could I use them for covering cold earth or turf pits?" Yes, if not deemed too good for the purpose. We would place each sheet on a hard level surface, level the worst of the inequalities, then pile one sheet on the other, cover them with a level surface, with heavy weights make the sheets pretty level, and then fasten each sheet to a light frame of wood. These, placed closely together, will make a good covering without rafters. In wet, mild weather they could be elevated back and front, in fine weather be lifted off; the colour would be of little consequence, as in frosty weather they could be covered with fern, litter, &c. Even the many-cornered pieces can be easily reduced into shape, for though zinc cuts badly, a pair of steel scissors, procured from an ironmonger on purpose, will clip it almost as easily as common scissors will clip calico.—R. F.

TRADE CATALOGUE RECEIVED.

J. Whitehead, Croft Bank, Hollinwood, near Manchester.—*Catalogue of Carnations, Picotees, Pinks, &c.*

COVENT GARDEN MARKET.—November 10.

Scarcely any alteration worth quoting; the attendance of buyers, however, has been better during the last few days.

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0	Leeks ..... bunch	0	4	to	0	0
Asparagus 100	0	0		0	0	Lettuce ..... score	1	0		2	0
Beans, Runner ½ sieve	3	0		4	0	Mushrooms .... pottle	1	0		2	0
Broad .... bushel	0	0		0	0	Mustd. & Cress, punnet	0	2		0	0
Beet, Red ..... doz.	2	0		3	0	Onions ..... bushel	3	0		4	0
Broccoli ..... bundle	1	0		0	0	pickling .. quart	0	0		0	0
Brus. Sprouts ½ sieve	3	0		0	0	Parsley ..... sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0	Parsnips ..... doz.	0	9		1	0
Capsicums 100	2	0		2	6	Peas ..... quart	0	0		0	0
Carrots ..... bunch	0	4		0	8	Potatoes ..... bushel	2	6		4	0
Cauliflower ..... doz.	3	0		6	0	Kidney .... ditto	3	6		4	0
Celery ..... bundle	1	6		2	0	Radishes doz. bunches	1	0		0	0
Coleworts .. doz. bchs.	2	0		4	0	Rhubarb ..... bundle	0	0		0	6
Cucumbers .... each	0	6		1	0	Savoys ..... doz.	1	6		2	0
pickling .... doz.	0	0		0	0	Sea-kale ..... basket	0	0		0	0
Endive ..... doz.	2	0		0	0	Shallots ..... lb.	0	0		0	6
Fennel ..... bunch	0	3		0	0	Spinach ..... bushel	2	0		3	6
Garlic ..... lb.	0	3		0	0	Tomatoes ..... doz.	0	9		1	6
Herbs ..... bunch	0	3		0	0	Turnips ..... bunch	0	4		0	8
Horseradish .. bundle	3	0		5	0	Veget. Marrows .. doz.	1	0		2	6

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples ..... ½ sieve	1	0	to	1	6	Mulberries .... quart	0	0	to	0	0
Apricots ..... doz.	0	0		0	0	Nectarines ..... doz.	0	0		0	0
Cherries ..... lb.	0	0		0	0	Oranges 100	8	0		14	0
Chestnuts .... bushel	8	0		14	0	Peaches ..... doz.	0	0		0	0
Currants .... ½ sieve	0	0		0	0	Pears, kitchen .. doz.	2	0		3	0
Black ..... do.	0	0		0	0	dessert .... doz.	3	0		5	0
Figs ..... doz.	2	0		4	0	Pine Apples ..... lb.	3	0		6	0
Filberts ..... lb.	0	6		1	0	Plums ..... ½ sieve	3	6		5	0
Cobs ..... lb.	0	6		0	9	Quinces ..... doz.	1	6		2	6
Gooseberries .. quart	0	0		0	0	Raspberries ..... lb.	0	0		0	0
Grapes, Hothouse . lb.	2	0		5	0	Strawberries .... lb.	0	0		0	0
Lemons 100	10	0		20	0	Walnuts ..... bushel	10	0		16	0
Melons ..... each	2	0		5	0	do. 100	1	0		2	0

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

Books (*A Subscriber*).—The "Garden Manual," "The Cottage Gardeners' Dictionary," and Johnson's "Science and Practice of Gardening," will give you all necessary information. You can have them post free from our office if you forward 12*s.* 2*d.* in postage stamps with your address. We cannot answer your question about the Customs.

Address (*A Subscriber*).—We do not know it.

Prolonging the Beauty of the Arbutus Berry.—"It is too valuable for purposes of table and other decoration to allow it to die without an effort to prolong its existence." Try dipping the berries, when quite dry, as they hang on the shrubs, into some coachmakers' colourless varnish.

Excrescences at the Base of Hollyhock Stems (*H. B., Honiton*).—The excrescences were caused, we think, by the stems being cut down too early. The roots were still active, and the growth not sufficiently fast to dispose of the sap they supplied, and it consequently extravasated. Probably it will not perceptibly injure the next year's blooming.

Various (*Amateur*).—We do not think there would be a sufficient demand for such a work as you name. There is no good work on aquaria. Some notes on the marine aquarium are in our columns to-day. You will have seen in our last number some directions for wintering Coleuses. Mr. Lloyd's successor is Mr. King; the direction is Great Portland Street.

Silver Beet Culture (*D. H.*).—The seed should be sown in good rich soil at the beginning of May, in drills 15 inches apart, like the common Beetroot. The plants should be thinned out, when large enough, to a foot apart in the rows. They should be kept free of weeds, stirring the ground about them until they are of good size, or as long as it can be done without injury to the leaves. The midribs of the leaves are used like Sea-kale. No blanching is required, but some cover the plants with Sea-kale pots, and the pots with leaves. In this way the midribs become more tender, but are less vigorous, though if the plants start for seed the stem is good. Some take up the roots and place them in a cellar, covering them with dry sand; and in a Mushroom or other house where there is a gentle heat, they may be blanched by covering with boxes or pots, and the leaves are very tender, more so than those taken from the plants in the open ground, but what is gained in tenderness is lost in flavour; besides, the midribs are not so thick and fleshy.

Passion-flower not Flowering (*E. B. B.*).—Your plants being seedlings, will account for their not flowering, and we advise you to thin out the shoots now so as to expose them fully to light and air, and thin them out considerably next year, so that they may continue so. Keep them dry at the roots from now until next March, or until they begin to grow, and yet not so dry as to cause the shoots to shrivel. The roots are best confined, as when these have a large space to run in the plants grow much too freely, and, of course, flower sparingly, and in some cases not at all. We should think your plants will flower next year, but it is not unusual for seedlings not to flower until the third or fourth season.

Planting Anemones (*T. H.*).—The best times to plant Anemones are October and February. We prefer October for all but very heavy wet soils, and there we think February planting best. The October planting flowers earlier than the February one. For named kinds required for furnishing blooms at a certain time, February planting may be desirable, otherwise we do not recommend keeping the roots out of the ground so long, except for the purpose of increase.

Salting Asparagus Beds (*H. J. R.*).—The present is not a good time for applying salt, because the rains and snows of winter wash it away; the roots are at rest, therefore do not absorb it, and it acts as a stimulant to their bark at a time when they are injured rather than benefited by stimulation. Two or three slight saltings of beds during the growing period are the best practice.

Ranunculuses in Pots (*P. C.*).—They are not often grown in pots, but they may be grown in that way. See answer to "*Iris*," October 7th, page 290.

Gishurst Compound (*A Caution*).—Apply it exactly according to the printed directions which accompany the compound.

Pruning a Vine in a Ground Vinery (*A Cottager*).—We have referred to "ground vinery" page 51, No. 433, and as the one rod left has grown strong, and is 7 feet in length, we would cut it back to 3 or 3½ feet. It would have helped the ripening of the wood if you had given little air after the middle of September. The sun heat is the best of all maturers.

VINES IN POTS (*A Working Mechanic*).—If a heavy crop be taken from a young Vine in a pot, it will rarely do any good the second year, as all its energies were exhausted in the crop. If only three or four bunches were taken and the wood were strong, the plant might do tolerably well in the following season, if—say, in a 15-inch pot; but if the plant is in a pot of that size now, it will often be better to richly top-dress instead of fresh potting so late. Everything fruited in a pot does best when, before starting into fresh growth, the pot is full of roots.

WATERING AN INSIDE VINE BORDER (*Cliftoniensis*).—We would water the border inside directly, making some holes and doing it at two operations instead of once, allowing an interval of a week or ten days between them. If the soil is so dry to the depth of 2 feet, the roots are apt to be dried-up, and, what is worse, to go down deeper in search of moisture. There could be no reason for keeping the roots so dry after the fruit was cut in August, unless it was to help to ripen the wood, but this dyness may easily be carried to excess. We would use tepid water.

OXALIS TROPÆOLOIDES (*H. M.*).—As you have no greenhouse or other convenience, we would advise you to let your thick patch of Oxalis tropæoloides remain where it is; merely put some dry ashes over and among it, and stick round and over it some evergreen twigs. The plants will most likely lose their tops, but they will come up strongly next spring. Last season, with us north of London, it was perfectly hardy. We merely took it up and transplanted it regularly. We will serve it, Cineraria maritima, and Centaurea candidissima as above, with dry ashes and burnt earth.

SEWAGE (*H.*).—The residuum is very little and not offensive, the constant passage of fluid dissolves everything but paper.

COMPOST FOR ROSES (*F. H. G.*).—The mixture of horse dung and malt dust recommended by Mr. Rivers, may be used fresh, but will preserve its efficiency for a long time if kept under cover.

FURNACE FOR STEAM-HEATING (*E. C. Hedges*).—For a hothouse to be heated by steam-pipes, we should prefer the furnace to be outside the house, as thus some possible inconveniences could be avoided. Furnaces inside hothouses are only advisable when the utmost economy as respects fuel is to be considered.

HEATING A SMALL GREENHOUSE (*Forest Hill*).—The cheapest mode of heating your house, 16 feet by 5, is by a small iron stove with a flat top, so that you can place a pan of water on the top, and take a 3 or 4-inch pipe through the roof or back of the house. If your stove fireplace is lined with firebrick all the better. One costing about 50s. should suit your purpose. We presume you have read something of what has been said of the management of such stoves. We are in doubt about the Ferns unless they are rather hardy kinds, and even they should not come very near the stove. The Camellias and Azaleas will be quite safe at 35°, but to bloom well they require from 45° to 50°.

HEATING A FERNERY AND GREENHOUSE FROM ONE BOILER (*E. L. I.*).—Is the fernery now insufficiently heated from the boiler, owing to the pipes being so few? If so, then the cheapest and simplest mode would be to connect the old and new pipes, especially the flow, and the simplest mode of doing this would be to connect them with 1-inch gas pipes, with a screw into each pipe. If the new pipe is on the same plane as the old pipe it will soon be nearly as hot. We have no doubt that from Weeks's tubular boiler you can heat your greenhouse and fernery equally well, though the latter is 3 feet below the level of the former, provided, as shown by your sketch, the lowest pipes in the fernery are above the level of the top of the boiler, and more especially as you seem to take two separate flows from the boiler—one flow to the greenhouse, and one flow to the fernery. Each pipe is, therefore, independent of the other. It is often different when different places on different levels are heated from one flow-pipe, branch off as it may, as then there will always be a tendency to have the greatest flow to the highest point. Hence, in heating warehouses, &c., in two or three storeys, it is often best—generally best—to take the flow to a cistern at the highest point, and from thence take flows downward from the higher to the lower storey. The heat is thus more equalised than if taken into the lower storey at once from the ascending flow-pipe; and so when a number of houses and pits are to be heated, the flows being of different levels. You will avoid this by the separate flow for each house direct from the boiler. We do not see why on account of a wall, you should bend down your pipe as it leaves the boiler for the fernery. This lowering of the pipe is always injudicious. To make it answer you would require an open air-pipe at the bend. Even then we should not like it. If really the level of the pipes in the fernery requires this, then the simplest remedy against all likely mishaps would be to sink the boiler. There will never be rapid circulation, if so soon after issuing from the boiler, the pipe sinks so much. Your success will depend on an open cistern at the farther end, and a small, open, gas air-pipe over the bend. The working will always be best when every heating-pipe is above the level of the top of the boiler. The returns may be thus situated before it is necessary to dip down to the bottom of the boiler.

CUCUMBER WINTER CULTURE IN POTS (*Choque*).—There is no difficulty in growing Cucumbers in pots in a stove, the chief point is to secure an average night temperature of 65°, and a day temperature of from 70° to 75°, and of 80° with sun heat. Any part of the stove will do, provided the leaves of the plant be exposed to all the sun and light possible. We have had the pots on the curbs of a pit above a flue, plunged partly in a bed, and sometimes set on a shelf at the back of the house, and the bines of the plant trained down. If anything, the plants did rather the best when the pots were set in a bed, so as to have an average heat of 80°, not more, at the roots. When we wanted Cucumbers quickly, we have grown them in 8-inch pots. Fifteen inches is a very good average size. The soil for winter may be two parts of sweet fibrous sandy loam, and one part of equal quantities of heath soil, dried sweet leaf mould, and a little charcoal. The heath soil helps now; after January we would rather be without it.

ESCHSCHOLTZIAS (*Sacrotivir*).—They are herbaceous plants. In Paxton's Dictionary they are erroneously called tuberous-rooted, and in the "Cottage Gardeners' Dictionary" as erroneously bulbous-rooted. The genus Venidium is Arctotis, and Callirhoe is Nuttalia in the "Cottage Gardeners' Dictionary." Centauridium Drummondi is a recent introduction.

PACKING TREES FOR EXPORTATION (*Subscriber*).—Tie the branches of each together, envelope the roots in moss, and wind a straw band round the whole—roots, stem, and branches; and after tying the trees together in a bundle, envelope it with straw as you see done by nurserymen. Now is a good time to send them.

ERADICATING HORSERADISH (*Oakham*).—We know of no better plan than persisting in what you have done. To dig up the plants by the roots is labour in vain, as it is next to impossible to find every piece, and not unfrequently, from the pieces left, it is a source of increase rather than clearance, and we are not surprised that your trenching the ground has caused it to come up more thickly than ever. Continue to pull up the plants as they appear, not waiting until they have grown to a considerable extent; but as soon as they can be laid hold of remove the soil about each a few inches deep, or so that they can be laid hold of, and pull them up, placing a little salt in the hole from which the roots were drawn.

CUTTING DOWN AN OLEANDER (*Idem*).—Cut it down at the end of March, keeping it rather dry, or avoid making the soil very wet until it begins to grow, and has shoots a few inches long, then repot, keeping a moist atmosphere, and do not water heavily at the roots until they are working freely in the fresh soil, then water freely. In repotting remove as much of the old soil as can be done, reducing the ball considerably, and pot in a smaller-sized pot.

POTTING HYACINTHS TO BLOOM IN MARCH (*A Subscriber*).—Hyacinths, Tulips, Narcissuses, and Crocuses to flower at the end of February and through March, ought to be potted without delay; indeed, they would have been better potted a month sooner. Place them in a cold frame, and cover them with spent tan or ashes to about an inch over the rims of the pots; only employ the lights to keep off heavy rains and during severe weather. About Christmas remove the bulbs to a cool house, placing them in the most light and airy position, and as near the glass as practicable. Up to February the temperature from fire heat should not exceed 40°, when it may be increased to 45°, and in that they will bloom at the time required.

PRUNING ROSES (*A. D.*)—You may now peg the shoots down, or cut them back to within three or four eyes of where you would prune them to, deferring the final pruning until the beginning of March, or if you peg the shoots down you could draw out the pegs in March, and then prune the plants as required, or leave them to flower as they were pegged, merely removing the points of the shoots. By the partial pruning now, or pegging down the shoots, you would escape the winds, and by deferring the pruning until March, injury from spring frosts would be avoided. Your question was answered October, 21st, page 328.

RED SPIDER (*Idem*).—You do not say what are the occupants of your house, and we cannot, therefore, advise.

NEWTOWN PIPPIN IN AN ORCHARD HOUSE (*Idem*).—Like Pears, Apples do not mature well in an orchard house; but placed out of doors in August they mature perfectly. It is, perhaps, due to the greater dryness of the atmosphere of an orchard house, as compared with the open air, and the want of dew in the former.—G. A.

CLIMBERS FOR A GREENHOUSE (*A. B.*).—There are no plants which will endure the gas. Why not have a funnel or funnels connected with the exterior to take away the fumes of the gas? Habrothamnus elegans, Hoya carnosa, Hibbertia volubilis, Jasminum gracile, Kennedya inophylla floribunda, K. monophylla, K. Marryattæ, K. rubicunda superba; Lapageria rosea, Plumbago capensis, Rhynchospermum jasminoides, Sollya linearis, Tacsonia Van-Volxemi, and Tropæolum Triomphe de Gand.

BULBS AFTER FLOWERING (*Poor Amateur*).—There is no necessity for throwing the bulbs on the rubbish heap after they have been forced; but they flower so indifferently a second year in pots that for the most part they are not employed, but planted out in the borders, where they do well. After flowering continue the bulbs in a light airy position, and in a house from which frost is excluded, supplying them with water as required; and when danger from frost is past plant them out in the open ground, supplying them with water until the leaves turn yellow; then withhold it, and when quite yellow take up the bulbs, dry them, and remove the loose skin and offsets, keeping the bulbs in a dry place until planting time.

AUSTRALIAN SEEDS (*Centurion*).—Albizzia lophantha is a synonyme of Acacia lophantha. Alyxias are Apocynaceous plants, all described in Don's "Botanical Dictionary." A. pugioniformis is a variety of A. ruscifolia, pictured in Loddiges' "Botanical Cabinet." Bauera is in the "Cottage Gardeners' Dictionary." B. rubioides and rubiæfolia are the same. Cryptocarya glaucescens is a Lauraceous shrub, noticed in Loudon's "Hortus Britannicus." Frenela cupressiformis is a Conifer, described in the last edition of Loudon's "Encyclopædia of Plants." Sow in February or March; directions are given in our vol. xv., page 424.

HUMEA ELEGANS (*S. P.*).—The plants which have flowered this year will not do so next. Those which have not flowered should be taken up and potted; winter them in a cool airy house, repotting them as the pots become filled with roots, and they will flower well next year. It will be sufficient if frost be excluded from the house in which they are wintered. Humea elegans is a biennial, but flowers the first year if sown early; to do well the seed ought to be sown in May, and the plants treated as biennials.

ERRATUM.—Page 362, left-hand column, twenty-seventh line, for "white at top and black at bottom," read "*black at top and white at bottom.*"

APPLES, &c. (*A Novice*).—Absence was the cause of their not being named, and when we returned they were too decayed to be recognised. Send some other specimens.

NAMES OF FRUITS (*E. W.*).—Beauty of Kent. (*New Forest*).—Beurré Bosc and Beurré d'Aremberg quite correct. The former is sometimes coarse in the flesh, and decays at the core. (*F. L. A.*).—1, Thompson's; 2, Achan; 3, Chaumontel; 4, Beurré Nantais; 5, Borovitski; 6, Nonpareil; 7, Lewis's Incomparable.

NAMES OF PLANTS (*J. L. D.*).—We cannot name plants from their leaves only. (*M. H.*).—1, Aster Novi-Belgii; 2, A. Novæ-Angliæ; 3, A. tardiflorus, var. cæspitosus; 4, A. cyaneus. (*James Scott*).—1, Peristrophe speciosa, formerly known as Justicia speciosa; 2, Aster Novi-Belgii. (*Ballybrophy*).—Lonicera involucrata. This may be thought a very curious Honeysuckle, and is, indeed, a great departure from the ordinary character of the genus. It is native of California. (*D. M.*).—We take your plant to be Lobelia ilicifolia; unfortunately our material is not the best, there not being a perfect flower on your specimen.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 9th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 3	29.817	29.650	57	49	51	48	N.W.	.68	Very fine; densely overcast; clear, starlight.
Thurs. 4	29.452	29.401	57	36	51	49	N.W.	.60	Fine, strong wind; overcast; densely overcast.
Fri.... 5	29.717	29.308	56	41	48	48	W.	.20	Fine; heavy rain; clear and fine, starlight.
Sat.... 6	29.791	29.448	52	23	50	48	W.	.00	Cloudy but fine; cloudy; densely overcast.
Sun... 7	29.837	29.826	52	37	46	47	W.	.06	Frosty; very fine; clear and fine at night.
Mon... 8	29.859	29.634	57	27	48	47	N.W.	.00	Densely overcast; cloudy but fine; clear.
Tues.. 9	29.783	29.662	54	25	47	47	N.	.04	Overcast; showery; fine and clear, cold air.
Mean..	29.763	29.561	55.00	32.71	48.71	47 71	...	0.32	

POULTRY, BEE, AND PIGEON CHRONICLE.

THE CARPET KNIGHTS AND LA DAME DES POULES.

Your correspondent, signing himself "Justice," will be quite able to rejoin to "Aliquis;" but at the risk of being thought meddlesome, I must say a few words on "Our Poultry Shows," moved by the desire to resist anything which may try to retard the reforms proposed.

The carpet knights, mentioned by "Aliquis" as gentlemen "who leave their drawing-rooms to blister their fingers with boxes and hampers, and pens, and cages, and rope, and string, and canvas, and packing-needles," can do all that "Aliquis" sets forth; and, in the spirit of that chivalry which "Aliquis" invokes, will do so without needing the reward of successful competition or a prize of money's worth. The lady writing out the "copy" of a heavy catalogue, folding and addressing the early editions so that they may reach the breakfast-tables of anxious exhibitors, plying her packing-needle, &c., deserves the praise which she appears to have won from "rough and honest men;" but she would be no less a lady, nor a less fitting companion picture to the carpet knights, if she declined to compete for honours in her own neighbourhood. The sum and substance of these word pictures, divested of the haze of "all that is chivalrous," amounts to this—namely, that committeemen who "dip their hands deeply into their pockets," and incur "labour and expense," should receive, or have the chance of receiving, a *quid pro quo*.

The first objection, urged by "Justice" and endorsed by myself, is, therefore, not answered; it is simply re-asserted in a cloud of words. The attempted answer to the second objection I do not understand, in consequence of some confusion in the pronouns used by "Aliquis." The case, however, which he puts is admitted by him to be one which "is not contemplated, and will not often occur;" and which, if of "frequent repetition, would defeat its original intention." If so, where is the use in supposing anything of the kind?

I am happy to see that the Birmingham authorities are setting a good example in discouraging competition on the part of committeemen and others officially connected with poultry shows.—Egomet.

LONDON POULTRY SHOW.

There will be a London Poultry Show at the commencement of next year. A prize list of £300 will be guaranteed by the Committee and the Directors of the Crystal Palace, where the Exhibition will be held.

AUCTION AT THE BIRMINGHAM POULTRY EXHIBITION.

There is one point which your correspondents who desire an alteration in the time of the auction at the Birmingham Show appear to have overlooked—namely, that some fanciers have made their arrangements already to attend on the Monday, and cannot well change the day. I certainly think it would be scarcely fair if the Committee were now to defer the sale until Tuesday. They might fix a later hour, say three or four o'clock in the afternoon, and thereby meet what appears to be a real want; but the change to another day ought not, in my opinion, to be made this year after the public have been all along led to believe that the sale would take place on the Monday. At the same time I fully coincide in what your correspondents have urged, that it is very advisable so to arrange matters that there may be no occasion for any one to be away from home or to travel on the Lord's day.—E. M. B. A.

THE BIRMINGHAM POULTRY SHOW.

The entries closed on the 1st inst., and are such as to warrant the conclusion that the Show will be of the usual popular and interesting character. Fluctuations there must inevitably be; but from the subjoined statement it will be seen that, although in some instances there is a decrease, as compared with 1868, the aggregate exceeds the average of several preceding years. Although an additional charge of 6*d.* per pen is made to exhibitors of poultry, with the view to check the constantly increasing demands for space, the feathered races will still be fully represented.

	1865.	1866.	1867.	1868.	1869.
Poultry	1675	1897	2111	2315	2016
Pigeons	331	418	565	432	490

LISTS OF PRIZES.

Persons sending birds to a distance may not be able to attend the exhibition themselves, but will naturally be very anxious to learn the decision of the judges; they, therefore, send the amount required for a list of awards, requesting and hoping the Secretary will send it to them by post the evening of the first day of the show; instead of doing so, a list is received, perhaps, after the birds have arrived at home; at any rate after it is of no use, as the result has then been published in the daily papers. Secretaries ought to post the list on the evening of the first day of the Show, and I think exhibitors are entitled to this little attention.—Aliquis.

MISTAKES AT THE CHESTER SHOW.

I have received a pen of Dark Brahmas, which I presume has been sent to me in error from Chester Show. Attached to the basket in which they came is an exhibition label No. 139, on the back of which is my name and address in full. You will oblige by giving the above facts publicity, as I am anxious to return the birds to their rightful owner, who may in the meantime rest assured that his birds are well cared for.

In connection with the above Show, I with many other exhibitors would like to have explained why we were all (whether exhibitors of poultry, Pigeons, or dogs), charged 6*d.* per basket for its conveyance from the Show to the railway station. As there were 843 entries, and presuming there were 700 returned by rail, the exhibitors were charged £17 10*s.* for what at other shows is generally done gratis.—Richard M. Lord, *Penn Road, Wolverhampton.*

BRISTOL AND CLIFTON POULTRY AND PIGEON SHOW.

In many respects the Bristol and Clifton Show has been remarkable; but chiefly for the fact, that although conducted for two successive seasons at a heavy pecuniary loss sufficient to dishearten most men, the indomitable "pluck" of the Committee, who on the third occasion issued a schedule which in the face of the past might almost be termed audacious, not only fairly turned the scale as regards pecuniary matters, but actually placed the Show next to Birmingham, beating even Manchester in the number of poultry entries. The new sche-

dule is now before us, and we must say that a more extraordinary sheet was never issued. Thirty silver cups, amounting in value to not far short of £200, and money prizes over £330, are the grand totals, and grand they are. Even Birmingham will need to be on the alert if this western upstart is to be "kept behind." There will be an increased number of judges this year; and with a hall unsurpassed anywhere for purposes of exhibition, no doubt the show will be even more than last year a triumphant success. We note as a hint to other committees that there is an excellent trimming clause, stating that the judges' attention will be specially requested to any fraudulent proceedings, but leaving the responsibility with them. This is right.

PRIZES FOR FRENCH VARIETIES OF FOWLS.

I also applied for three out of the four prize lists mentioned by "Blackbird," and not caring to enter my Crève-Cœurs in the "Any other variety classes," I have not entered them at either show. I last spring gave a long price for the first-prize Crève-Cœurs at Hull, and though they there beat a very good class, and at Ipswich the cock was called by *The Field* a very first-rate bird, at Beverley, in the "Variety class," they were only highly commended, as were two other pens of Crève-Cœurs, the prizes going to Sultans and Black Hamburghs. I do not at all dispute the decision of the judge, as the prize pens were as good of their kind as they could be, I only wish to prove that the Frenchmen should have a class to themselves, as they do not stand a chance against Sultans in the show-yard, and not much against Black Hamburghs, though at most shows French fowls outnumber the other sorts by three or four to one. I am this week sending birds three hundred miles to a show, as I cannot hear of a French class near home; and I am sure that if breeders of French fowls only show where they have a class for their favourites, they will soon find that they will not have to waste so many stamps as they have to do now in finding a prize list with a class for French fowls.—Crève-Cœur.

[We have heard from more than one committee that if the breeders of French fowls will agree to send a certain number of pens, or to offer a cup as a prize to be competed for by them, the committees would have a class or classes for the said fowls.]

CHESTER POULTRY SHOW.

At the recent poultry Show held at Chester I entered a pen of fowls, and, as usual, on forwarding them paid the carriage, 1*s.* 10*d.* To my surprise, on receiving them back, I was charged 2*s.* 6*d.* At first I thought I had received the wrong birds again, that probably they had been so well provided for during their absence from home as to have increased in weight: but no, neither supposition was true. I then inquired from the other exhibitors here, and I find they, too, have been dealt with in the same way. Now, as I am determined to find out how this occurs, and if possible put a stop to so gross an imposition, I should like to ask your readers, if any, who may have experienced the same imposition, if they can give me any information, as it is my intention to obtain a repayment of the overcharge if possible.—Henry Vaughan.

LICE ON PIGEONS.

I find nine out of ten Pigeon fanciers who give very high prices for birds, know very little about their treatment. I am constantly receiving letters from gentlemen about their Pigeons dying from some cause unknown to them. To keep a flight of fancy Pigeons in health and prosperity, they require as much care and attention as that which a good shepherd bestows on his flock.

Pigeons are all more or less troubled with two different sorts of vermin, called "Pigeon lice." I can always tell when one of my birds is troubled with these pests. Birds so affected may easily be found out; they will while walking about suddenly stop and peck very quickly under their wing, and other parts of their body, and shake their feet as if wanting to get rid of something disagreeable. My treatment is to dress my birds twice every year with sheep ointment, or blue unction, in the following manner:—I take a small pot of ointment, and place it in a basin of warm water to melt it; then I take a small piece of stick, cutting the end flat, dip it into the ointment, and put a small quantity just above and below the vent, under each wing, and under the throat or neck of the Pigeon. By the above treatment I keep my birds free from the vermin, and they live to the age of ten or twelve years, and breed well with me up to that age.—W. Woodhouse.

CHESTER POULTRY SHOW.

The Drill Hall, Chester, though not a building of limited size, was filled almost to excess on the 4th and 5th inst. with birds from the principal poultry yards in the kingdom, consequently the Show proved unusually good. So great was the interest excited by a liberal prize schedule, that the Committee, though reluctantly, were compelled to decline more than a hundred of the entries that were last proffered to the Secretary, a very strong proof that the emulation of poultry-breeders is not subsiding. We regretted to find, as usual, that a considerable number of excellent pens arrived about the time the Judges had finished their duties.

Dorkings were the first class on the list, and very rarely have such good classes met the eyes of breeders of this useful variety of fowls. Of *Spanish* the entries were numerous, and the birds were shown in capital condition. We noticed, as everyone present must have done, a cock of this variety disqualified for having his comb tied upright with a piece of thick string, as awkwardly carried out a piece of deception as we have witnessed for many years past, for, as a gentleman jocosely remarked, "he looked as though he had a halter on." The *Game* classes were beyond question among the gems of the Chester Show, the Brown Reds being the best of those exhibited this season. *Dark Brahmas* were excellent, but we regretted to find on close inspection several pens of birds naturally falcon-hocked, very cleverly pulled some three or four weeks back, so that the half-grown feathers might insure security from detection. The Judges, however, quickly discovered the deceit, and these pens were therefore passed unnoticed. The *Cochins* were good, whether Buff, Partridge, or White. In the *Hamburgh* classes every variety was well shown, being, as a general rule, remarkably true to feather. There was a very unusual case of disease, elephantiasis in the legs of a Golden-pencilled Hamburgh cock, that drew special attention, as although hitherto almost unknown among any variety of fowls save Cochins, of late several cases have presented themselves among Sebright Bantams and Crève-Cœurs. It is a disease that should be promptly dealt with in its early stages, as it is very contagious, and when once confirmed is most difficult to eradicate. The Pencilled cock just alluded to had legs increased in size by this disease, until they were almost as large as those of a Dorking. Compound sulphur ointment in the early stages is an excellent application. *Polish* were better by far than customary, and the entry was a large one. Game *Bantams* were not exhibited in the condition they should have been. Thirty-six pens in the "Selling class" formed a very good entry, and were so good that many lots changed hands, the maximum price being 30*s.* the pen. The Aylesbury *Ducks* exhibited by Mrs. Seamons, of Aylesbury, ensured an unusual amount of interest in this neighbourhood, and Mr. Gamon's several pens of Rouen Ducks were well worthy of their position. *Geese* and *Turkeys* were especially good. In the first-named class, a pair of those rare birds, the Australian Cereopsis Geese, sent in at the very low price of five guineas, gave any intending purchaser such an opportunity of buying as might not again occur for many years; nothing in the Show could have been exhibited in finer plumage.

Pigeons had a room allotted to themselves up-stairs, and it appears not a few visitors, by oversight, were deprived of the pleasure of inspecting an unusually fine collection.

Dorkings.—1, H. Crossley. 2, J. White (Grey). *hc*, Mrs. Arkwright (Coloured); Rev. E. Bartrum, Great Berkhampstead (Coloured); Viscount Turnour, Shillinglee Park (Coloured). *c*, Rev. E. Bartrum (Coloured); T. E. Kell; N. G. Russell (Coloured); E. Shaw (Grey).

Spanish (Black).—1, H. Lane. 2, H. Beldon, Goitstock, Bingley. *hc*, T. & E. Comber, Warrington; R. Davies; F. James; P. H. Jones, Fulham. *c*, W. R. Bull; J. Gliddon; J. Siddorn.

Game Cock (Any colour).—Cup, J. Wood (Brown Red). *hc*, J. Platt (Brown Red); G. F. Ward (Brown Red). *c*, C. Chaloner, Whitwell, Chesterfield (Duckwing); J. Platt (Brown Red).

Game (Black-breasted Red).—1, C. Chaloner. 2, J. Forsyth.

Game (Brown-breasted Red).—1, J. Wood. 2 and *hc*, J. Platt. *c*, T. Burgess, Burleydam.

Game (Any other variety).—1, J. Halsall, Ince (Duckwing). 2, W. Gamon, Chester (Duckwing). *c*, W. Gamon (Duckwing); J. Halsall (Duckwing).

Game Pullet.—1 and 2, J. Wood (Brown Red). 3, J. Forsyth (Black Red). *hc*, Barker & Charnock (Black Reds); T. Burgess; T. Mason; E. Noble (Black Red).

Brahma Pootra.—1, F. O. C. Haworth. 2, H. Lingwood, Martlesham (Dark). 3, Hon. M. A. Baillie Hamilton (Dark). *hc*, Rev. E. Alder; Rev. J. Bowen (Dark); W. R. Boyle (Dark); Dr. Holmes (Dark); G. A. Stephens (Dark); Miss A. Williamson (Light); Mrs. Woodcock (Dark). *c*, Rev. J. Bowen (Dark); T. A. Dean (Light); W. B. Etches (Dark); E. Leech, Rochdale; M. Leno, Markyate street, near Dunstable; W. Gamon.

Cochin-China (Cinnamon or Buff).—1, Bowman & Fearon, Whitehaven (Buff). 2, W. A. Taylor (Buff). *hc*, W. Sanday (Buff); C. Sidgwick, Ryddlesden Hall, Keighley (Buff).

Cochin-China (Any other variety).—1, W. A. Taylor (Partridge). 2, E. Tindman, Whitehurch, Salop (Partridge). *hc*, Bowman and Fearon (White); C. Sidgwick (Partridge); Miss Story (Partridge). *c*, H. Crossley.

Polish (Black).—1 and *hc*, W. Gamon. 2, J. Dickenson.

Polish (Any other variety).—1, H. Beldon. 2 and *hc*, W. Gamon (Silver and Golden).

Hamburgh (Golden-spangled).—1, J. Ogden. 2, W. A. Hyde. *hc*, E. Brierley; Duke of Sutherland. *c*, S. & R. Ashton, Mottram.

HAMBURGHS (Silver-spangled).—1, H. Belden. 2, J. H. Howe. *hc*, Ashton & Booth. *c*, A. Woods.

HAMBURGHS (Golden-pencilled).—1, H. Belden. 2, W. R. Park. *hc*, W. Clayton; W. Speakman; Duke of Sutherland. *c*, W. Parr, Patricroft.

HAMBURGHS (Silver-pencilled).—1, Duke of Sutherland. 2 and *c*, H. Belden. *hc*, W. R. Park.

GAME BANTAM COCK.—1, J. Crosland, jun. (Black Red). 2, H. F. Nicholson (Duckwing). *hc*, W. F. Entwisle (Black Red); G. Maples (Duckwing); F. Steel (Black Red).

GAME BANTAMS.—1, W. F. Entwisle (Black Red). 2, G. Maples (Duckwing). *hc*, W. Adams; R. N. Barlow (Black Red); J. Crosland, jun. (Black Red); J. W. Oates (Black Red).

GAME BANTAMS (Any variety not Game).—1 and 2, M. Lene (Laced). *hc*, H. Belden (Black); T. C. Harrison (Laced); G. F. Hodson (Gold-laced); W. H. Tomlinson (Black); J. White (Black). *c*, Mrs. Bellyse (Gold-laced).

ANY OTHER VARIETY NOT PREVIOUSLY MENTIONED.—1, Mason & Walker (Black Hamburghs). 2, Hon. C. W. Fitzwilliam (Crève-Cœur). *hc*, S. Butterfield (Black Hamburghs); Hon. C. W. Fitzwilliam (La Flèche and Crève-Cœur); Mrs. Seamons (Crève-Cœur); Rev. W. Sergeantson (Black Hamburghs); G. A. Stephens (Houdans). *c*, J. H. Dawes (Houdans).

SELLING CLASS.—1, Rev. W. Sergeantson, Acton Burnell (Black Hamburghs). 2, Miss E. Williams (Crève-Cœur). 3, C. W. Brierley. *hc*, A. Bamford; W. F. Checkley (Buff Cochins); R. Davies (Black Spanish); W. Little (Brahma Pootra); E. Ryder (Rouen Ducks); T. Wakefield (Silver-spangled Polands). *c*, T. & E. Comber; W. J. Cope (Dockwing Game); J. Mansell (Black Spanish); H. B. Morrell (Dark Brahma); Viscount Turnour (Coloured Dorkings); C. Williams (Black Red Game).

DUCKLINGS (Aylesbury).—1 and 2, Mrs. Seamons, Aylesbury. 3, S. H. Stott. *hc*, W. Stonehouse.

DUCKLINGS (Rouen).—1, and 2, W. Gamon. 3, J. Dickenson. *hc*, W. Gamon; S. H. Stott; T. Wakefield. *c*, W. Evans.

DUCKS (Any other variety).—1, C. W. Brierley. 2 and *c*, M. Lene (Mandarin and Carolina). *hc*, S. & R. Ashton (Carolina); R. P. Williams (Bahama).

GOSLINGS.—1, S. H. Stott. 2, Mrs. Seamons. *hc*, E. Leech; R. P. Williams. *c*, G. Bagnall; Rev. G. Hustler; J. White.

TURKEYS.—1, W. Sandy, Cambridge. 2, T. & E. Comber, (Cambridge). *hc*, Earl Grosvenor (Norfolk); S. H. Stott (Cambridge).

PIGEONS.

CARRIER.—*Cock.*—1, G. C. Holt. 2, J. Hawley. *vhc*, E. Horner, Harewood. Whole class *hc*. *Hen.*—1 and *vhc*, G. C. Holt. 2, J. Hawley. *hc*, J. Thompson; E. Walker. *c*, G. H. Roberts; J. Thompson.

POUTER.—*Cock.*—1, W. Gamon. 2, E. Horner. *hc*, W. Harvey, Sheffield; J. Hawley. *Hen.*—1 and 2, E. Horner. *hc*, W. Harvey. *c*, W. Gamon.

TUMBLERS (Almond).—1, J. Fielding, jun. 2, J. H. Ivimy.

TUMBLERS (Balds or Beards).—1 and *c*, W. Woodhouse. 2, J. Fielding, jun. *hc*, F. Graham; W. Woodhouse.

TUMBLERS (Any other variety).—1, R. Minnitt, jun. (Mottles). 2, J. Fielding, jun. *hc*, J. Grice (Red). *c*, J. Hawley (Mottles).

TUMBLERS (Any variety not Short-faced).—1, J. Hawley (Mottles). 2, E. Horner.

DRAGOONS.—1, J. H. Frean. 2, Mrs. Arkwright.

BARBS.—1, J. Fielding, jun. 2, G. H. Roberts.

NUNS.—1 and 2, W. Croft. *hc*, W. Bankes; F. E. Thompson. *c*, P. H. Jones.

FANTAILS.—1, W. Harvey. 2, F. Graham. *hc*, F. Graham; E. Horner; W. B. Tomlinson; J. Walker.

JACOBINS.—1, E. Horner. 2, P. H. Jones. Extra 2, E. E. M. Royds. *hc*, R. Fleming; E. E. M. Royds.

TRUMPETERS.—1, W. Gamon. 2, W. Harvey. *hc*, W. Gamon; E. Horner. *c*, C. F. Staunton.

OWLS (Foreign).—1 and *c*, F. Graham. 2, J. Fielding, jun. *hc*, A. A. Vander Meersch.

OWLS (English).—1, J. Crosland, jun. 2, F. Graham.

TURBITS.—1, W. Bankes. 2, E. Horner. *hc*, J. Fielding, jun.; P. H. Jones.

RUNTS.—1 and 2, F. Graham.

ANTWERPS.—1, W. Harvey. 2, J. Crosland, jun. *c*, Mrs. Arkwright; W. H. Mitchell.

ANY OTHER VARIETY.—1, W. Harvey. 2, J. Fielding, jun. 3 and 4, F. Graham (New variety). *hc*, W. Harvey; E. Horner; P. H. Jones.

The Judges of *Poultry* were Messrs. Hindson, of Liverpool, and Hewitt, of Birmingham; and for *Pigeons*, Messrs. Esquilant and Hedley, both of London, officiated.

SOUTHAMPTON ORNITHOLOGICAL SHOW.

THIS was held at the Carlton Hall, Southampton, on the 9th and 10th inst., and continues this day. The following is the list of the awards:—

SPANISH.—1, F. James, Peckham Rye. 2, J. R. Rodbard, Aldwick Court, Wrington, Bristol.

DORKINGS.—1, T. Martin, Claines, Worcester. 2, J. Smith, Shillinglee, Petworth. *Chickens.*—1, O. E. Cresswell, Hanworth Rectory, Hounslow. 2, H. R. Seymour, Crowood, Hungerford.

COCHINS (Any variety).—1 and Cup for best pen, J. Cattell, Birmingham (Buff). 2, Mrs. Allsopp, Worcester.

BRAHMAS (Dark).—1, H. Lingwood, Creeting, Needham Market. 2, H. Dowsett, Pleshy, Chelmsford.

BRAHMAS (Light).—1, J. Pares, Postford, Guildford. 2, H. M. Maynard, Ryde, Isle of Wight. *Chickens.*—1, Mrs. A. Williamson, Leicester. 2, Mrs. T. Turner, Avon, Ringwood. 3, H. M. Maynard.

GAME (Black and other Reds).—1, Capt. G. Price, Taynton, Gloucester. 2, J. Fletcher, Stoneclough, Manchester. *Chickens*—1 and 2, J. Fletcher.

GAME (other variety).—1, G. Sainsbury, Devizes. 2, J. Mason, Worcester.

HAMBURGH (Silver and Gold-pencilled).—1, N. Barter, Plymouth. 2, Mrs. Allsopp. *Chickens.*—1, H. Pickles, jun., Earby, Skipton. 2, Mrs. Pattison, Dorchester.

POLANDS.—1, J. S. Watson, Earby, Skipton. 2, T. P. Edwards.

FRENCH VARIETIES.—1, Mrs. Pattison. 2, Capt. T. S. Robin, Fontenay, Jersey (Crève-Cœur).

HOUDAN CHICKENS.—1 and 2, W. O. Qnibell, Newark. 3, Hill & Co.

ANY OTHER VARIETY.—1, Hill & Co. (Gangesian). 2, J. Hinton, Warminster (Malay).

GAME BANTAMS.—1, S. Samways, Southampton. 2, E. Payne, Cardiff.

BANTAMS (Any other variety).—1, Miss A. Hodson, North Petherton. 2, H. Draycott, Humberston.

DUCKS (Aylesbury).—1, W. Tippler, Chelmsford. 2, A. Saunders, Southampton.

DUCKS (Any other variety).—1, A. Saunders (Rouen). 2, C. N. Baker, Chelsea (Mandarin).

GEESE.—1, Mrs. M. Ford, Weymouth (Toulouse). 2, Major-Gen. H. P. de Bathe, Chichester (Sebastopol).

TURKEYS.—1, St. J. Coventry, Winborne (American). 2, W. Fookes, Blandford.

SELLING CLASS.—*Cock or Cockerel.*—1, Mrs. Christie Glyndebourne, Lewes (Partridge Cochin). 2, Viscount Turnour, Petworth (Dorkings). *Hens or Pullets.*—1, W. Stanford, jun., Steyning (Dorkings). 2, T. Rogers.

PIGEONS.

POUTERS.—1, R. Fulton, Deptford. 2, H. Yardley, Birmingham.

TUMBLERS.—1 and 2, R. Fulton.

BARBS.—1 and 2, R. Fulton.

JACOBINS.—1, H. M. Maynard, Ryde. 2, J. C. Ord, Pimlico.

FANTAILS.—1 and 2, H. Yardley.

OWLS.—1, P. H. Jones, Fulham. 2, R. Fulton.

TURBITS.—1, O. E. Cresswell. 2, P. H. Jones.

CARRIERS.—1, H. M. Maynard. 2, J. C. Ord.

TRUMPETERS.—1, J. Hawley, Bingley. 2, C. Bulpin, Bridgewater.

NUNS.—1, H. Yardley. 2, C. Bulpin.

DRAGOONS.—1, H. M. Maynard. 2, J. C. Ord.

ANY OTHER DISTINCT VARIETY.—1, W. B. Tegetmeier, Finchley (Pigmy Pouters). 2, H. Yardley.

SELLING CLASS.—1, J. C. Ord (Carriers). 2, H. M. Maynard (Carriers).

CANARIES.

NORWICH (Clear Yellow).—1, T. Mann, Camberwell. 2, Messrs. Moore and Wynn, Northampton. 3, Messrs. Bemrose & Orme, Derby.

NORWICH (Clear Buff).—1, W. Walter, Winchester. 2 and 3, Messrs. Bemrose & Orme.

NORWICH (Marked or Variegated Yellow).—1, W. Walter. 2, Messrs. Moore & Wynn.

NORWICH (Marked or Variegated Buff).—1, Messrs. Moore & Wynn. 2, H. Apted, Broadwater. 3, O. Nicholson, Landport.

NORWICH (Any other variety).—1, W. Walter. 2, Messrs. Irons & Gayton, Stockley.

BELGIAN (Clear Yellow).—1, R. Richardson, Landport. 2, O. Nicholson.

BELGIAN (Clear Buff).—1, O. Nicholson. 2, J. Hayes, Sutton-in-Ashfield.

BELGIAN (Variegated or Marked Yellow).—1 and 2, O. Nicholson.

BELGIAN (Variegated or Marked Buff).—1 and 2, O. Nicholson.

LIZARD (Golden-spangled).—1, E. Hawkins, London. 2, Widdowson and Holmes, Swindon.

LIZARD (Silver-spangled).—1, H. Apted. 2, J. Hayes.

GOLDFINCH MULE (Jonque).—1, J. Baxter, Newcastle-on-Tyne.

GOLDFINCH MULE (Mealy).—1, T. Cordingly, Brighton. 2, Rev. V. Ward, Canterbury.

CANARY OR MULE (Any other variety).—1, H. Vine, East Cowes, Isle of Wight (Cinnamon). 2, J. Baxter (Linnet Mule).

BULLFINCH.—1, Mrs. W. C. Drummond, Bath.

GOLDFINCH.—1, W. Walter.

LINNET.—1, J. Baxter.

SKYLARK.—1, J. W. Harrison, London.

WOODLARK.—1, O. Nicholson.

BLACKBIRD.—1, Mrs. Roe, Southampton.

SONG THRUSH.—1, T. Webb, South Norwood.

STARLING.—1, J. W. Harrison.

ANY OTHER VARIETY.—Equal 1, A. G. Hubbarde (Magpie); J. W. Harrison (Nightingale). 2, O. Nicholson (Cream-coloured Goldfinch).

COCKATOO (Any variety).—1, M. George, London (Lemon).

PARROTS (Any variety).—1, J. W. Harrison (King). 2, W. Walter (Grey).

LOVE BIRDS.—1, W. B. Bailey, Purfleet.

JAVA SPARROWS.—1, W. Walter.

WAX-BILLS (Any variety).—1, W. B. Bailey (St. Helena).

ANY OTHER VARIETY.—1, J. W. Harrison (Bearded Tits). 2, J. Fry, Southampton (Parroquets).

PHEASANTS.—1 and 2, E. Gibson, Ryde, Isle of Wight (Gold and Silver)

JUDGES.—*Poultry:* Edward Hewitt, Esq., Sparkbrook, Birmingham. *Canaries:* A. Willmore, Esq., London.

YORK ORNITHOLOGICAL SOCIETY'S SHOW.

THE following is the prize list of this Show, held at York on the 3rd inst.:—

NORWICH (Clear Yellow).—1, Moore & Wynn. 2, T. Irons, Northampton. *hc*, Pennock & Blackstone, Whitby; E. Orme, Derby.

NORWICH (Clear Buff).—1, J. Bexson, Derby. 2, E. Orme. *vhc*, Pennock and Blackstone; T. Irons, Northampton; J. Bexson.

NORWICH (Evenly-marked Yellow).—1, J. Bexson. 2, Moore & Wynn. *hc*, G. Gayton; Moore & Wynn.

NORWICH (Evenly-marked Buff).—1 and 2, Moore & Wynn. *vhc*, G. Gayton, Northampton. *hc*, Pennock and Blackstone.

NORWICH (Black or Grey-crested).—1, Pennock & Blackstone. 2, T. Irons. *hc*, J. Calvert.

NORWICH (Yellow or Buff-crested).—1, — Clarkson. 2, R. Reed.

LIZARD (Golden-spangled).—1, Clarke & Houghton. 2, Pennock and Blackstone. *hc*, — Ransley; R. Hawman. *c*, Allen & Baines.

LIZARD (Silver-spangled).—1, — Rawnsly. 2, — Hawman. *vhc*, Allen and Baines, York. *hc*, Clark & Houghton.

BELGIAN (Clear Yellow or Buff).—1, F. Fritschler, Beverley. 2, W. Needler, Hull. *hc*, W. Dodsworth; W. Needler.

CINNAMON (Yellow or Buff).—1, T. Irons. 2, — Bexson. *vhc*, — Gayton; R. Hawman. *hc*, Moore & Wynn.

CANARIES (Any breed).—1, Clarke & Haughton. 2, J. Downs. *vhc*, — Brushby; Moore & Wynn. *hc*, Mrs. S. Gadsby.

CANARY (Any other variety).—1, — Calvert. 2, R. Trelschler. *vhc*, J. Greenless. *hc*, — Irons.

Cage of Six Canaries, in Variety.—1, Clarke & Haughton. 2, M. Burton. *hc*, J. Calvert.
Goldfinch Mule (Variegated).—1 and 2, W. Needler. *vhc*, — Bunting; J. Robinson. *hc*, C. Burton.
Goldfinch Mule (Dark).—1, Allen & Baines. 2, Moore & Wynn. *vhc*, M. Burton. *hc*, R. Smith.
Linnet Mule.—1 and 2, — Burniston, Middlesborough. *hc*, Miss M. Gawan.
Goldfinch.—1, R. Hawman. 2, S. Bunting. *vhc*, J. H. Baw; — Burniston. *c*, J. Foster, York.
Linnet (Brown).—1, J. Foster. 2, S. Bunting. *vhc*, J. N. Harrison; — Burniston. *hc*, — Dodsworth.
Parrot (Any colour).—1, Miss E. Hill, York (Scarlet). 2, J. Calvert, York (Grey). *hc*, J. Scott (Grey).
Canary (Ticked or Uneven-marked).—1, J. N. Harrison. 2, E. Orme.
Canary (Clear Yellow).—1, T. Cowl, York. *hc*, S. Hardcastle; J. Mollitt.
Canary (Clear Buff).—1, G. Carr. *hc*, J. Mollitt; W. Clarkson.
Judge.—Mr. J. Barnesby, Derby.

DARLINGTON ORNITHOLOGICAL SOCIETY.

The first Show of this Society was held on the 6th inst., when nearly three hundred specimens of Canaries and British birds were staged for competition.

The Society is only in its infancy, this being its "first step;" and a most creditable attempt it was, the result affording every encouragement to its promoters to repeat the Exhibition next season on a more extensive scale. The Secretary (Mr. W. W. Ellerton), and Committee were most assiduous in attention to their duties, polite and courteous to strangers, and not lacking in firmness and decision in requiring the conditions of their schedule to be acted upon in their integrity by exhibitors, and will, with increasing experience and outside support, which they deserve, make the Darlington Show take a fair position among the North of England exhibitions.

The entries were chiefly from the neighbourhood; but the thanks of the Society are due to those All-England men who make it a point of duty to support every well-conducted show by sending specimens to enrich the exhibition, regardless of the question of expense. Northampton, Sunderland, and Derby each sent its contribution.

The *Belgians* were strong in numbers and quality, the winning birds being in some instances hideous in their beauty. "Wiltshire Rector" once wrote me that he had no special liking to any particular variety of Canary, but was conscious of an intense dislike to Belgians. Now he writes that he regards them with sympathy and not horror. I am afraid he is smitten past all recovery. I can understand a man being enticed by the blandishments of a lovely Clear Norwich, the sparkling dress of a syren Lizard, or the more sober beauty of a modest Cinnamon dressed like a prim little Quakeress; but when he loses his heart to a Belgian hunchback the disease can go no further, and frequent will be the notices to the churchwarden. "Absent on urgent private affairs." But I think if he had seen the first-prize Clear Yellow Belgian when he was "put up" his old dislike would have returned. It reminded me of a scene at our last show, where a lady was very anxious to see a Belgian bird put into position, and a very grand specimen was "put up." But when it began to straighten its legs till its happy owner asserted it would turn its joints inside out, and when it seemed to be making frantic endeavours to get its shoulders over its head, and was evidently bent on dislocating its neck, she took her husband's arm and said, "That'll do, John, that'll do; have him *put down* again!"

The *Norwich* classes were fair, and the prize birds excellent, but I have seen better exhibited by the same names. I suppose they are doing battle at Southampton. The Crested birds were very good, but the wording of the schedule necessitated very "all round" judging, as no special variety was indicated. I always hail the advent of a new name in a catalogue, and especially when it is that of a gentleman of position. Charles Taylor, Esq., son-in-law of George Elliott, Esq., M.P., made his debût in this class with two very creditable specimens. They bore evident signs, however, of having received their ablutions from a 'prentice hand, but for which they would, probably, have taken a higher diploma than V.H.C. and H.C. I hope to see more of Mr. Taylor's stock.

The *Lizards* were a very good sample, the first-prize Golden-spangled notably so, showing strong points of excellence. Messrs. Irons & Gayton were in immense force in Cinnamons, their Jonques being super-excellent. Of the Yorkshire birds I can only say, as I have said elsewhere, that they bore a strong resemblance to inferior Norwich birds, and there was very little pleasure in judging them. The true Yorkshire is a noble type of Canary, and very different from the mongrels often entered as such. The "Any other variety" class enabled Messrs. Pennock and Blackston, and Messrs. Moore & Wynn to win with very fine specimens of Ticked and Unevenly-marked Norwich.

The Goldfinch *Mules* were a show in themselves, though there was only one class for them—viz., "Evenly-marked Buff," the Committee falling into the same error in classification as at North Ormesby. Mr. Young was first with one of his stud, and Mr. Shiel followed with three beauties, which it was hard to separate. The Rev. S. T. Mosse also exhibited a bird which, with time and improved condition, will require a deal of beating. Dark Mules were not numerous, but first-rate in quality. The first prize in Class V., "Any other variety of Mule" fell to a splendid Brown Linnet Mule, backward in condition, but a bird of extraordinary merit—evenly and lightly marked on the wings, and side of the head, and tail, and of extra colour. The clear Greens represented two sections, the Norwich Green, and the common Pea Green. There is a diversity of opinion as to which is the more meritorious bird, and the judgment in this class caused, I will not say dissatisfaction, but a little spirited argument by the admirers of either class. As the common Pea Green bird is that meant in all our northern schedules, it would be as well to state "common" in contradistinction to "Norwich." The former is the favourite home pet of our colliery districts, and the latter the foundation of the glorious Norwich Jonques, and I am glad to see, that in societies where the matter is understood, there is now a separate class for "Norwich Green."

The *Goldfinches* and *Linnets* were numerous and very splendid birds, and the varied specimens in the miscellaneous class were each and all worthy of favourable comment.—W. A. Blakston.

Belgian (Clear Yellow).—1 and *vhc*, M. Rickaby, Darlington. 2, W. Bulmer, Stockton-on-Tees. *hc*, G. Dixon, Darlington. *c*, R. Robinson, Middlesbrough.
Belgian (Clear Buff).—1, J. N. Harrison, Belper. 2, R. Robinson. *c*, W. Bulmer.
Belgian (Variegated Ticked or Uneven-marked).—1, T. Craggs, Stockton. 2, G. Tomlinson, Darlington. *vhc*, J. N. Harrison. *hc*, J. Baxter, Newcastle.
Norwich (Jonque).—1, Irons & Gayton, Northampton. 2, Pennock and Blackston, Whitby. *vhc*, Layfield & Ellerton, Darlington. *c*, G. Shiel, Sunderland.
Norwich (Clear Buff).—1, Moore & Wynn, Northampton. 2, Pennock and Blackston. *vhc*, Irons & Gayton. *hc*, R. Hawman, Middlesbrough.
Norwich (Evenly-marked Jonque) —1, E. Mills, Sunderland. 2, Irons and Gayton. *vhc*, Pennock & Blackston. *hc*, T. Peat, Helloe New Row. *c*, W. Simpson, Darlington.
Norwich (Evenly-marked Buff).—1 and 2, G. Shiel. *vhc*, Pennock and Blackston. *hc*, Moore & Wynn.
Canary (Clear crested).—1, W. Cotton, Middlesbrough. 2, J. Garbutt, Broughton. *vhc*, G. Shiel. *hc*, W. Bulmer. *c*, J. Calvert, York.
Canary (Dark or Grey-crested).—1, Irons & Gayton. 2, J. Calvert. *vhc*, G. Shiel; W. Bulmer; C. Taylor, Sunderland. *hc*, G. Shiel; C. Taylor; J. Garbutt. *c*, Pennock & Blackston; J. Stainsby.
Lizard (Golden-spangled).—1, Pennock & Blackston. 2, T. Stansfield, Stockston. *vhc*, J. Taylor, Middleton. *hc*, R. Richie, Darlington; R. Hawman.
Lizard (Silver-spangled).—1, J. McCune, Stockton. 2, J. Young. *hc* and *c*, J. Stainsby.
Jonque (Cinnamon).—1 and 2, Irons & Gayton. *hc*, R. Hawman; W. Bulmer. *c*, Moore & Wynn.
Buff Cinnamon.—1 and 2, Irons & Gayton. *vhc* and *c*, Moore & Wynn. *hc*, J. Young.
Yorkshire (Clear Yellow).—1, T. Armstrong, Broughton. 2, J. Garbutt, Broughton. *vhc*, E. Barker. *hc*, E. Graham.
Yorkshire (Clear Buff).—1, R. Hawman. 2, C. Burniston. *hc*, M. Burton, Middlesbrough. *c*, Pennock & Blackston.
Yorkshire (Evenly-marked Yellow).—1, M. Burton. 2, R. Hawman.
Yorkshire (Evenly-marked Buff).—1 and *hc*, R. Hawman. 2, G. Green.
Any other Variety.—1, Pennock and Blackston. 2, Moore & Wynn.
Goldfinch Mule (Evenly-marked Buff).—1, J. Young. 2, G. Shiel. *vhc*, Rev. S. T. Mosse; G. Shiel. *hc*, R. Robinson.
Goldfinch Mule (Dark).—1 and 2, M. Burton. *hc*, Rev. S. T. Mosse.
Mules (Any other variety).—1, C. Robinson. 2, J. Young. *hc*, J. Baxter. *c*, W. Burniston.
Cage of Six Canaries (Variety and plumage).—1, M. Burton. 2, Layfield & Ellerton.
Clear Green.—1, W. Bulmer. 2, M. Burton.
Goldfinch.—1, J. Fairclough. 2, J. Young. *vhc*, J. Hindle.
Linnet (Brown).—1, R. Robinson. 2, J. Young.
British Birds (Any other variety).—1, T. Smith. 2, J. McCune. *vhc*, W. Hodgson (Thrush). *hc*, C. Trees.
Judges.—Mr. Pearson, Durham, and Mr. W. A. Blackston, Sunderland.

MATCHES OF BARB PIGEONS AT THE PHILOPERISTERON SOCIETY.

These took place on the 9th. Capt. Heaton showed five pairs of old birds against five pairs of the other members of the Society's birds. The Captain's birds were one pair of Reds, one pair of Duns, and three pairs of Blacks. The other members showed against them two pairs of Reds, one of White, and two of Black. The decision on these was an easy matter for the three gentlemen who officiated as Judges—Messrs. Wiltshire, Esquilant, and Tegetmeier, for with the exception of one Black cock and a Red hen, belonging to Mr. Headley, which were two extraordinarily good birds of their age, the Captain's went clearly before the others. No one could avoid remarking what a splendid pair of Reds the Captain's were, and his Dun hen is no doubt the best Dun hen in the fancy: in fact, the only old birds he showed that were not extra good in all points, were the Dun cock and his old Black cock, their forms being bad in skull and coarse. The Black cock is the remains of an extraordinary bird for skull and eye.

Next came the young birds of 1868, the Captain showing one pair of Yellows and three pairs of Black against four pairs of the same age of the other members. In these the Captain

won in cocks, and the other members in hens. Of these birds, if the owner have patience to keep them for two or three years, he will have birds of which a Barb-fancier might be pleased to have a sight.

Next came four pairs, each of birds of 1869. In these Messrs. Jones and Headley easily vanquished the Captain in the cocks, and in the hens the merit was equal. The Captain cannot have too much praise for his pluck in challenging and defeating the most of the members of the great Philoperisteron Society in the friendly manner he has, and the manner in which the defeated members acknowledged their defeat was most praiseworthy.

RABBITS AND THEIR VARIETIES.

When speaking of the fancy Rabbit we always associate it with being exhibited, so that as an introduction to any remarks I make in reference to any particular variety it may not, I hope, be deemed out of place to say a few words respecting shows, more particularly the want of uniformity in the scale of entry fees.

I fully admit that all committees think they are fixing the proper charge, but I cannot understand why there should be such a vast difference in the opinions of committees; for instance, I have before me schedules containing entry fees, showing the almost incredible difference between 6*d.* and 10*s.*, a £3 first prize being offered in the latter case, a five-shilling one in the former; the one far beyond the speculative feelings and means of many would-be exhibitors, the other deemed unworthy of notice. The entry fee is certain in its payment, but the prize not so sure. I incline to the belief that a tenth is about a fair proportion of the prize as entry fee, or what we often now find—viz., a £1 prize and a two-shilling entrance fee. And why, I should like to ask, do we find such differences made in the prizes awarded when the same fee is exacted for all? I have seen schedules in which the Lops are to receive a £1 prize, the other varieties 10*s.* Now justice says, Make them all alike in awards if equal in entrance fee, or at least assign a satisfactory reason to the exhibitor why the inequality should exist.

I often think committees to some extent fail in rendering their shows so attractive to the exhibitor as might be done with a little more judgment and care in fixing the scale of entries. No doubt a great similarity is found in issuing a schedule of entries and awards to putting forth a programme of any entertainment. The first point is to convince the exhibitor that it is worth his while to enter his stock, feeling that the entrance fees and awards are proportionate to each other, leaving the result to the knowledge of the judge, who gives the finishing touch to the weeks' or months' toil on the part of the committee. In the case of the pleasure-seeker, he also wants to feel convinced that his fee for admission will be fully repaid by the pleasure derived from the entertainment. I think the above hints are worthy of notice by committees, and that acting on them would conduce to the success of their shows.

I will now continue my remarks on the varieties of Rabbits.

Dutch.—"The pretty little Dutch!" say all who look upon these diminutive specimens of the Rabbit family. It is small, but very attractive, wonderfully docile, and very amiable in disposition. It is originally from Holland, but is also found and reared very extensively in France under the name of Nicard. It is much esteemed in Old Provence, and valued for its hardy and prolific nature. The does are excellent mothers, generally rearing from six to eight young, and are also excellent nurses. I would recommend all fanciers to have a couple of these mothers having litters at the same time as their other valuable specimens, for fear of accident, or there being, perhaps, too many for the doe to rear, especially if intended to be "extra strong" for exhibition. Then the maternal affection of the Dutch doe may be relied on, as she cares for the well-being of the helpless progeny of another doe overburdened with a large family. They are of various colours, as tortoiseshell (which in the estimation of some is the perfection of marking in this variety); blue, with a white ring round the neck; grey and black, with a white ring; and at times the body is dotted over with—say, blue and white, which gives Rabbits of this breed a pretty appearance. The marking seems to be a little uncertain, like that of the Lop or Angora. Of the former, the marking is frequently made the subject for a separate class and prize at shows (not forgetting other points, of course); whilst the Angora, as I have previously stated, receives its prize irrespective of colour.

At present our judges seem at a loss as to the points of the Dutch, and at times I think it would be well if committees would have two classes for them—say one for tortoiseshell, and the other for any marking, as a blue, grey, or black body, with a white ring round the neck. This ring is at times not complete; a few hairs, perhaps, behind the ears, of the same colour as the body, forming a kind of buckle as if to attach the white collar. The perfection of this ring might be the point of excellence, if the specimen were perfect in other respects.

I am glad to find that this variety is now receiving the attention its beauties deserve. At some shows a distinct class is given for it. I should be glad to find all the fancy Rabbits represented at such periodical gatherings, and have no hesitation in saying that if properly invited by a distinct class, they will be in prompt attendance for the judges' opinion.

By breeding in-and-in this variety may be reduced to a very diminutive size. This by some is considered a point of excellence. I have heard of specimens weighing less than 1½ lb. I do not wish for them of less weight than 2½ lbs., and cannot perceive the advantage of reducing them to a weight so much less than the natural size.

The Himalayan and Silver-Grey will form the subject for a few remarks ere long.—Charles Rayson, *York Mount, Prestwich, near Manchester.*

SPURIOUS HONEY.

I have directly not a word to say regarding this controversy, as to the merits of which I am indeed profoundly ignorant, but I wish to confirm what has been stated by "A Manchester Man" regarding Mr. Pettigrew, who is to my own knowledge a bee-keeper of very many years' standing, and of great practical ability. He is also, as most of us are aware, a man of original ideas, which, although they may not invariably be correct, he does not shrink from propounding openly, and advocating earnestly, fairly, and honestly. It must, therefore, be apparent that it is simply absurd to say of such a man that he should not assume to give information to others on the subject of bees, and I should be very sorry if anything which has transpired should tend to discourage his contributions to "our Journal." For myself, I can only state that I have always perused them with pleasure not unmingled with profit, and that I have reason to know that they have proved instructive to many others as well as to—A Devonshire Bee-keeper.

AN OLD STOCK IN A COLLATERAL HIVE.

I have a stock of bees which I want to transfer, increase, and manage better. When I attempt to do anything with them the points at their tails keep one in mind of their powers for a few days, for though I encase myself in a bee dress, &c., being close to a road, very frequently I have heard parties wish them gathering honey in some other place but there. I have this season taken off some 45 lbs. of honey from one swarm, which I do not consider bad. They have been in the same box about ten years, and I fancy the combs are too full to leave space enough for a large brood, although, as far as I know, they are healthy and strong. When I take them off the stand, is there any plan by which I could cut any of the comb, as I fear their active attacks will spoil my pleasure, I knowing of nothing to stupefy them, and so remove them? The centre box I keep full of honey; it weighs about 40 lbs., it has slits on each side, through which the bees pass into two side boxes; these I take off every year, and this with 45 lbs. is no exception—I have done the same for years. They have never swarmed but once, and that swarm I have had no honey from for two years. Where can I procure a Woodbury hive? I will then with instructions try to put the swarm into it, and if I procure a Ligurian queen, should I have any chance of uniting it to this stock?—October.

[We fancy we should leave the bees alone in the old hive (which appears to be a Nutt's collateral, and to have been an old and faithful servant), if it were only to see how long bees will thrive in the same combs. As soon as the colony again becomes populous—say towards the end of April, or in May, according to the season, you may, however, transfer the bees of the swarm to a Woodbury hive in the manner described in page 72 of our present volume. Messrs. Neighbour, 149, Regent Street, and 127, Holborn, and Mr. Pettitt, of Dover, supply Woodbury hives, or you may write direct to Mr. Wood-

bury, at Exeter, who would also obtain for you an Italian queen, and advise you as to uniting her.]

BEE-KEEPERS' CONVENTION, LONDON, CANADA.

This convention met according to notice on Tuesday, September 21st, but adjourned in favour of the fruit-growers' meeting held at the same time.

The Committee appointed to draft a constitution and bye-laws, and recommend officers for a permanent bee-keepers' association, beg to report as follows:—

CONSTITUTION.

Art. 1. That this organisation be called the "Ontario Bee-keepers' Association."

2. That the object of this association shall be to promote the interests of scientific and practical bee culture.

3. That gentlemen paying 50 cents yearly shall be considered members of this association, Ladies to be admitted to membership free of charge.

4. That the officers of this association shall consist of president, vice-president, secretary, treasurer, and a committee of five, three to form a quorum—who shall be appointed annually.

5. That this association shall meet annually at the time and place of the Provincial Fair, or oftener, at the option of the committee.

BYE-LAWS.

1. The order of procedure at the annual or public meeting of the association shall be, first, the transaction of business, and then the discussion of questions pertaining to the science and practice of bee-keeping.

2. Any member of the association shall be entitled to send notice to the secretary of a question or questions for discussion at an approaching annual or other public meeting.

3. Questions previously prepared, and of which public notice has been given, shall take precedence of other subjects of discussion at the meetings of the association.

4. Any person proposing a question shall, if present, be expected to introduce the subject.

5. No person shall be allowed to speak longer than ten minutes at one time on any question.

6. The association shall have the power to change or add to the constitution or bye-laws at any annual meeting, notice of such change or addition having been given at least twenty-four hours beforehand.

The discussion of questions was then resumed. After a lengthy and pleasant discussion of the question, "What is the best method of artificial swarming?" it was moved and carried that it be laid upon the table.

The question "Has foul brood ever been discovered in Canada?" was next submitted. As several members answered in the affirmative, it was then resolved, that cases of undoubted foul brood having been reported, this association would strongly urge the total destruction by fire of all stocks and hives affected by this dread scourge of bee-keeping, so as to prevent its spread.

The question of the best size of hives for Canada was then discussed at considerable length, when it was moved and carried that a hive containing about 200 cubic inches is the best for Canada.

THIRD SESSION.

Pursuant to adjournment, the Ontario Bee-keepers' Association met on Wednesday evening at 7.30 o'clock, when the minutes of the last meeting were read and approved. Several items of business being disposed of, the question "Do bees consume less and come out better wintered in a uniform cool or in a warm temperature?" was discussed. After a brief discussion it was resolved that bees winter best in a uniform cool temperature. The question "What kind of plants will honey the best in excessively wet weather?" was next considered. After a short discussion it was resolved, that in the opinion of this association the locust, currant, raspberries, and berry plants in general, sweet clover, and American bee plant, are the best plants for producing honey in wet weather. The question "What is the best method of securing the most surplus honey after having doubled your swarms?" was taken up. After a spirited discussion it was resolved that the best method of obtaining surplus honey is by using large boxes on new hives, and taking honey from old hives by the honey-extractor. The question "Is the centrifugal comb-emptying machine as useful as has been represented?" was then considered. After several replying in the affirmative, it was resolved that we regard the honey-extractor favourably, and recommend its favourable use. The last question brought before the association was—"Is a plain hive the best for successful bee-keeping in Canada?" After an exceedingly interesting discussion a resolution was passed with one dissentient, that a moveable comb hive, and not a plain hive, is best for successful bee-keeping.

After having enjoyed three very interesting and profitable sessions, with an average of sixty intelligent bee-keepers, thirty-five of whom enrolled themselves as members, the meeting adjourned to meet again at the time and place of the next Provincial Fair.

OUR LETTER BOX.

Feeding Fowls for Exhibition (*Cymro*).—You should be rather more explicit, and tell us what breed the birds are. In some you would want to make weight, in others to make hard plumage. Dorkings, Cochins, and Brahmas would belong to the former; Game, Malay, and Spanish to the latter. One thing they have in common, they should be fed four times every day. The first meal should be at daybreak, the next two should equally divide the day, leaving the fourth for the last of daylight. No meal should be so plentiful as to make them leave any, nor should they even be thoroughly satisfied. It is an excellent plan to throw them a piece of bread or some crumbs three or four times every day, only a little, but it does them good. We shall suppose your pen is a pen, being, in short, nothing but a place in which fowls may be confined. As the object is to cause the birds to improve, even as compared with those that are at liberty, it will become immediately apparent they should have everything the others have. Some bushels of road grit should be thrown down. Large sods of growing grass should be cut and thrown into the pen every day. They should be well supplied with fresh spring water. For ordinary fowls, give ground oats slaked with milk, cooked meat chopped fine, bread, and a handful of maize now and then. If the ground oats or barley meal can be slaked in pot liquor, so much the better. Some steamed greaves often do wonders in making weight. To all must be added, where hard feather is sought, a few peas every day; and a raw egg or two—the yolk of them only, will sometimes do wonders for a Game cock.

Houdans Giddy and Paralysed (*H. S. F.*).—All the French breeds are subject to these attacks. The La Flèche are the worst. Our treatment is to give bread and ale, and Baily's pills. A most essential point is to take away their water, and allow them to drink a little only three times per day, and that strongly impregnated with camphor. You will see when they are taken they go to the edge of the vessel containing their water, and take their stand there, drinking every minute. It continues the disease, but the absence of water is the beginning of the cure. We left one of our best pullets this morning just as you describe yours. We took away her water—she will be well to-night.

Fowls and Guinea Pigs Killed (*G. F. T.*).—We believe you are suffering from the depredations of hedgehogs. We were the victims of such visitations for a long time, and it was only after watching some nights we discovered it. That was in a lonely orchard. We have in London pets and pests; among the latter we reckoned black-beetles, and were advised to try a hedgehog. We did so—from the day we did so we had mysterious deaths and disappearances. At last we found the delinquent. He killed and partly ate a pair of Carolina Ducks, and yielding to the feeling of ease following a copious meal, he composed himself among the down and feathers, and went to sleep. Hence the discovery.

New York Poultry Show (*H. B. M.*).—Write to Mr. Tegetmeier, who, we believe, is London Secretary.

Poultry Farm (*Young Nemo*).—You can keep two hundred adult fowls on four acres of grass. We hope soon to hear of poultry-gardening, believing that the surface may be increased by inequalities, and shelters, dusting places, and refuges artificially provided, the whole subject to a law that there shall be no hollow or damp place. We do not hold with crosses. If you are satisfied that Hamburghs and Spanish are the best layers, why not keep the latter on account of the size of their eggs? An egg is an egg on paper, but it is by no means the same at breakfast or in a pudding. We believe six Spanish eggs are equivalent to ten Hamburghs. Eggs at this time of year, or, indeed, always, should be sold by weight. For table you want Dorkings or Brahma Pootras. These both sit their own eggs. Crève-Cœurs and Houdans are both excellent layers, but do not sit. We are in the habit of keeping eggs in slaked lime, but not lime water, and they do not taste. We have been told eggs covered with butter or gum keep equally well. We have never tried either.

Points of Light Brahmas (*Inquirer*).—The only difference in points of Brahmas, as between Light and Dark, is in colour. The Light variety should be white with the following exceptions:—The flights and tail should be black; the hackle striped with black; the feathers of the legs light outwards, dark underneath. In every other point they are alike.

Aylesbury Duck's Eggs Unfertile (*A Disappointed One*).—The eggs are very large, but we have seen single Spanish hen's eggs nearly as large as some of them. We have had Ducks, hens, and Geese laying double eggs frequently, but have never known them to continue it always. It is a derangement of the system. We should not hesitate to breed from the same birds again. Laying double eggs is by no means a sign of barrenness.

Exhibiting Ducks (*October*).—From your description we should think No. 1 the best birds, and we consider the hole in the web of the foot quite unimportant. We presume, from your speaking of bills, they are Aylesbury Ducks. If so, it is far better to have black spots on the bills than to have them discoloured. The weight is hardly enough; you want at least 2 lbs more. The loss of the tips of one or two toes would not interfere with the hopes of success for a bird; but if all were missing, it would certainly be a disadvantage.

Andalusians.—We are informed that "H. P." can obtain what he requires, if he write to Mrs. Kirkman, Malton, near Woodbridge, Suffolk. We do not know her birds.

Ground Oats (*R. A.*).—We congratulate you on having succeeded in grinding the whole of your oats. The husk reduced to fine meal is among the most valuable parts of the corn. It is better to give it mixed with water, and it is also more profitable.

Feeding Bees (*L. M.*).—The best mode of feeding is by means of an inverted bottle, as described and figured in page 21, of "Bee-keeping for the Many," which may be had post free from this office for five stamps.

Elder Wine (*Subscriber*).—We believe that Elder wine that has not fermented with yeast, will ferment spontaneously, as do the wines of foreign vintages.

POULTRY MARKET.—November 10.

We have a good supply and a bad trade.

	s. d.	s. d.		s. d.	s. d.
Large Fowls	3 0 to	3 6	Partridges	1 4 to	1 6
Smaller ditto	2 6	3 0	Grouse	2 6	3 0
Chickens	1 9	2 0	Pigeons	0 7	0 8
Geese	6 0	6 6	Hares	3 0	3 6
Ducks	2 0	2 3	Rabbits	1 4	1 5
Pheasants	2 6	3 0	Wild ditto	0 9	0 10

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 18—24, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
18	Th	Meeting of Linnean Society, 8 P.M.	48.0	33.1	40.6	20	25 af 7	8 af 4	17 af 4	59 af 5	15	14 37	322
19	F		48.9	33.9	41.4	17	27 7	7 4	44 4	5 7	O	14 24	323
20	S		48.9	34.5	41.7	14	28 7	6 4	17 5	13 8	17	14 9	324
21	Sun	26 Sunday after Trinity.	49.5	36.4	42.9	25	30 7	5 4	57 5	17 9	18	13 54	325
22	M		49.1	34.4	41.7	24	31 7	3 4	47 6	17 10	19	13 38	326
23	Tu		47.5	34.4	40.9	18	33 7	2 4	45 7	10 11	20	13 22	327
24	W		47.4	31.9	39.6	14	35 7	0 4	51 8	54 11	21	13 4	328

From observations taken near London during the last forty-two years, the average day temperature of the week is 48.5°; and its night temperature 34.1°. The greatest heat was 61°, on the 20th, 1863; and the lowest cold 9°, on the 23rd, 1858. The greatest fall of rain was 0.95 inch.

UNHEATED ORCHARD HOUSES.

IF we may judge from the season experienced in the Channel Islands, it may be said that never since the first introduction of orchard houses has Peach culture in them experienced such great difficulties. Here we had a damp and gloomy spring, succeeded by a sunless summer, and this by an unfavourable autumn remarkable for the most furious hurricane ever felt here. Hail showers and low temperatures closed in the record of this trying fruit season with a grim appropriateness. It would have been indeed too much to expect anything like ordinary results in orchard houses without artificial heat, whatever others may have done. As, nevertheless, several correspondents have recorded in these pages their usual success, in spite of every natural obstacle, I am glad to be able to add my own testimony. It would conduce to the interests of fruit-growers if some experience were gathered from these different results, and if future builders of orchard houses without fire heat would study these data. I, for one, am far from thinking that the present style is final or exhaustive of the question. Great amounts of time, labour, and money are now invested in orchard houses, and the capacities of these should be more carefully ganged than is the case at present.

To my mind the main fault lies in the unreasonable expectations formed respecting the powers of production of orchard houses. We hear of fabulous crops—Peaches by the peck (size not stated, nor quality)—but seldom of steady and uniform rates of bearing, which, after all, are as much a true test of skill in the gardener as they are agreeable to the employer; not to say by far the most profitable in the end. Can anything be more opposed to the aim of orchard-house culture than to utilise (?) these valuable buildings for something of every kind that can be crowded into them? yet many gardeners are compelled from want of other space to have recourse to this expedient. Vines will sometimes bear well in orchard houses, but generally at the expense of the Peaches. The same thing may be said of the other fruits. The presence of bedding plants is fatal to the setting of the Peach crop. Potted trees increase in lateral development, but the number remains the same, and then two or three seasons of overcropping, and the trees may as well be used as fuel.

I do not think that there is now a general want of skill in the management of orchard houses; the present magnificent succession of fruits was literally unknown when I commenced this culture; glass is cheap, information is abundant, and a short trial will readily test either the tree or the description of it in the catalogue. There is no reason, therefore, why any should lay the blame of failure save on his own neglecting to note accurately what he sees before him, and so to judge for himself. I believe the great cause of ill success to be the haste which we all experience to see some return for money and time expended, which induces us to exact from young trees too heavy crops. In many places which are much visited, efforts are unavoidably made to secure a fair show at the expense of the trees' future welfare, and blank spaces generally attract visitors more than real excellence of culture, and invite the easy but vexatious criticism of the ignorant. Let the gardener, especially in the orchard house, harden his heart against either his friend's sympathy or his suggestions when he places unreasonable standards of perfection before him. Let him work to attain a steady rate of production, neither exhaustive nor yet below some fair rate of crop. Let him, above all, take the criticisms of visitors at their true merit. This sounds like hard doctrine, but it is the result of an experience of many such matters.

And what grounds, then, will my friends say, have I now for still recommending this careful noting of facts for self-guidance; this practice of steady, in preference to spasmodic, production; and this careful adaptation of the structure of an orchard house and its contents to ranges of climate and its powers of bearing? I will proceed to mention them.

It is too often supposed that the fruit-growing powers of the Channel Islands are so great that little skill is needed to produce almost anything. This has mainly arisen from the reputation of our noble Chaumontel Pears, which happen exactly to suit our cloudy summers and equable night temperature; but for most other fruits the south of England is our equal, and in almost every garden production France and Belgium are naturally superior. Apricots here will rarely succeed on the open wall; open-air Grapes are inferior to those of England. The prevalence of strong sea breezes laden with salt is opposed to success. The hurricane of the 12th of September last, which exceeded a hundred miles an hour in speed, destroyed every leaf which was exposed to it, and shook down most of the crops. Last year, also, a gale occurred in the middle of August. Even in the case of orchard houses, the spring was disastrous, gloomy, and cold, while the summer was nearly sunless; in the month of October we had smart hail showers, and have now violent wind. All these matters are troublesome in the extreme for orchard houses, and render it necessary to exercise continual watchfulness in ventilation and watering. The excellent crop which I had cannot, therefore, be fairly placed to the credit of nearly spontaneous production as being usually common in the Channel Islands. As early as the 12th of June (a date never before reached here), Early Beatrice Peach ripened; and, as I write, two fine baskets of late Peaches (the only ones there), have just been exhibited at the Jersey Horticultural Show. This makes five months' succession of Peaches and Nectarines—not a bad test of the value of unheated orchard houses. It was, indeed, strange to see these trees in full bloom under a February's cold sky, and ripening well under hail and storm in November—ten months!

Not only was there this long period of bearing, but the whole of the fruit was of full size, and of very good colour. Early Rivers and Exquisite, two of the finest Peaches ever seen in England, were especially fine. The first, ripening on the 1st of July, reached to 8½ inches round, perfect, delicious—as the Rev. W. Kingsley, an excellent

judge, also says—and in every way likely to be our best early Peach. Exquisite, from Georgia, is, I think, the finest of Peaches for splendid colour and melting vinous juice. This season it reached 12 inches round, being finer than ever, and the largest Peach ever seen here. So much for quality of fruit. As to number, it absolutely would have equalled, if spread over a trellis, two and a quarter fruit per square foot. In an orchard house of 100 feet by 30 this would have been something enormous. My house is, however, a lean-to of only 15 feet in breadth. Thus, if it be not too much to triumph over, many friends and others who have at least twenty times the area of glass that I have, and still have hardly one Peach this season—and this in earliness and lateness of production, in single specimens and general excellence, and in amount of crop—it would be hard to say where each or all these could be surpassed. Such facts warrant assertion, and prove that certain conditions must not be transgressed if good results are expected. The trees, in fact, were in steady bearing condition, had never been overcropped, had been much thinned, and this disastrous year did not affect their general vigour.

Another point must not be forgotten. The bulk of the crop was borne on cordons, and the potted trees treated as auxiliaries only. The diagonal cordons on the back wall gave the earliest and the most fruit. The spiral cordons in the borders furnished the latest. Standards, which had been many seasons in pots, and had been closely pruned, had that inward curl of root which takes seasons to develope, and thus grew slowly, and bore well. This makes all the difference when we come to plant-out in borders. Trees planted in a young state, and allowed to develope, must end by defeating their pruners. This is the great secret of success in cordon training—from the outset all rampant shoots are kept under and equalised. There is no way of training so easy as this, nor so adapted to economise space under glass. The regularity of form is exactly what we want here. It is not one-half so difficult as training a pyramid or bush.

In speaking of cordons we must not forget that there are some kinds which are most productive. The low lateral bears fine fruit, but not so many as the diagonal. Again, the small, closely-pruned diagonal I have of late abandoned for a form of this shape having longer shoots and more of them. This gives vigour to the tree, and such have the best chance of regular bearing, besides being better able to overcome the attacks of insects. Some of these old trees—the oldest in England—are of good dimensions being thus expanded; and each alternate cordon being advanced 18 inches from the wall allows freer play to its neighbour. Potted trees will bear well for a time, but will not endure the amount of crop taken from large cordons planted in borders. The difficulty in regularly watering potted trees induced me to treat them as auxiliaries only in respect to profit, as three-quarters of our crop was sent to Covent Garden, the remainder being ample for our own wants. With cordons in the borders, having a supply of water turned on into gutters passing by them, as we do here, there is little risk of neglect.

There is every prospect of a good crop for next season.—T. C. Bréhaut, *Guernsey*.

SOME VARIETIES OF FIGS.

As the season for ordering new trees has now arrived, it may, perhaps, interest some of your readers if I make a few observations on several varieties of Figs which I have cultivated, and the greater part of which were obtained from Mr. Rivers. I must premise that the trees are in pots, and in a moderately-heated orchard house. Varieties which do not bear freely under such treatment, as Brunswick, Castle Kennedy, Figue d'Or, have been consigned either to the open wall or to the faggot heap. The following is a list of those that fruited in the house this year. They are placed in the order of their ripening their second or autumnal crop, which, under glass, is the most important one:—

Early Violet.—August 6th. Very small but high-flavoured. This I believe to be synonymous with Malta.

White Marseilles.—August 17th. The first variety ever introduced into England. The sexton of Tarring informed me, that in the exceptionally warm season of 1868, a standard tree there ripened 150 dozen of the second crop. I have also ripened a second crop in an unheated boarded orchard house. The fruit is very sweet, but with hardly any flavour. Flesh white.

Early White.—This variety was rather popular in the last century, but is now seldom seen. The fruit much resembles White Marseilles, and is, to my taste, at least its equal. The foliage of the two varieties is quite distinct.

Pastelière.—Tree ill-shaped. Leaves ill-shaped and often discoloured. Fruit middle-sized, yellow, and downy, becoming nearly black. Quality good, but most of the fruit dropped off imperfect.

Du Roi.—Vigorous growth. Fruit white inside, about equal to White Marseilles.

Dorée (Nobis of Rivers).—Another vigorous grower, but with small, flattened, yellow fruit. Skin thick. Ripens to a sweet-meat.

Black Provence.—Small compact growth, the very model for a pot tree. Fruit small, elongated. When ripening the prominent veins first become black, giving the fruit a singular appearance. Unless very highly ripened it has a disagreeable taste, like a Fig leaf.

Bourjassotte Grise.—Fruit of a good size, colour dingy, quality most excellent. Well deserving the commendation bestowed on it in the *Gardeners' Chronicle*, December 5th, 1868.

Barnissotte Grise.—Another excellent fruit, but not quite equal to the former. The foliage is not healthy, and spots readily.

White Genoa.—Foliage pale green. Fruit yellow, with pale red flesh. Eye, pretty and pinkish. Quality good, but fruit liable to crack.

White Ischia.—Fruit small, pale, and discoloured. Flesh pale red. Quality so excellent that one cannot but regret that this sort must be grown in heat, and, therefore, that so few of our countrymen can ever enjoy it. It may be fancy, but the taste seems to me to resemble a delicate Fig and a ripe Mulberry melted into one. It is known to systematic botanists that there is a great affinity between the trees which bear these two fruit.

Jerusalem or *Figue Goutte.*—Noble foliage. Fruit green, elongated, pale inside. Eye usually closed with a drop of sugary gum, whence its second name. Sweet, but without much flavour.

Ronde Noire.—Medium size, dusky. Flesh pale. Quality good.

Brown Turkey.—This well-known variety requires no description. For the open wall it is without rival; but, strange to say, of all the varieties I cultivate under glass this is the least satisfactory. The fruit swells, colours on one side, but remains green on the other. The flesh does not become juicy, but is solid. The same defect is found both in the first and second crop. Nevertheless, among much rubbish a few fruits ripen to perfection, and I have observed that these excellent Figs are often situated immediately below the joints where the branch has been stopped, and that they ripen before those situated lower down. I have asked advice as to the defect complained of, but have never been able to get a satisfactory reply. One adviser suggested that there was something the matter with the roots, but as there were about eight trees of Brown Turkey in the house, there is no reason to suppose that their roots were in a more unfavourable situation than those of other varieties. I remember, however, having seen in your pages a statement that Figs exposed to bright sunshine ripened prematurely and imperfectly. This seems improbable when we consider that in foreign countries Figs flourish most under hot, cloudless skies. Nevertheless, it is supported by the fact, that a dozen Brown Turkey trees which I keep back in spring, and which are brought into the warm house to ripen towards the end of October, when the power of the sun has declined, not only in general ripen their fruit well, but these are much darker in colour than those which ripen earlier.

Œil de Perdrix.—September 7th. Plant short-jointed and sturdy. Fruit reddish brown, but without any peculiar beauty of eye, such as one would expect from the name. Flavour good, reminding one of the White Ischia. Liable to crack, and in consequence of the fruit being sessile on the branch, the lower part ripens with difficulty. The last fruits are the best.

Gourreau Rouge.—Medium size, reddish brown, good, but not high flavoured.

Datte.—Green, flesh red. Good.

Grosse Verte.—Green. Flesh dark red, very liable to crack. Last year, by paying great attention to watering, I obtained most excellent fruit. This year I have not been so fortunate. One plant which had not quite water enough produced fruit fully swollen, but deficient in flavour. The other must, I suppose, have had a trifle too much, and the fruit split; so that it is steering between Scylla and Charybdis.

Gourreau Noire.—September 20th. Elongated, black, with a beautiful bloom, desirable both from its colour and its quality.

Col di Signora Nera.—October 7th. Large, chocolate brown, swollen at the neck; quite a sweetmeat.

D'Agen.—Green, with red flesh, and good. Though one fruit ripened on the 17th of October, no other has ripened up to the present time (November 10th). It is too late for general cultivation.—G. S.

AMATEUR ROSE-GROWING.

A THOROUGH florist and a most successful cultivator and exhibitor is Mr. Charles J. Perry, of Castle Bromwich, Birmingham. With the Verbena, Dahlia, and Rose, Mr. Perry may truthfully be said to excel, and he *does* excel. He has raised some of the finest Verbenas ever sent out, and he has made good contributions in the form of new Dahlias; he is also a raiser of seedling Roses, and though he has not as yet secured floricultural immortality in this direction, yet as an exhibitor he has won many a fight in the modern edition of the wars of the Roses. Though Mr. Perry grows a great many standard Roses, yet his chief reliance is on dwarf Roses on their own roots, grown on the "pegged-down system," one by no means new, but well deserving of being more generally adopted, especially by exhibitors. I paid Mr. Perry a visit about the middle of July last, and the glorious floral display his huge bed of pegged-down Roses presented, was one seldom to be witnessed. It was, indeed, as if summer had come forth

"All wreathed in a thousand flowers,"

the hue of the Rose seemed to blend with the fragrance of the Violet, and shed a luscious balm around.

All Roses to be grown on the "pegged-down system," should be, and are with Mr. Perry, on their own roots. By following the plan adopted at Castle Bromwich, it is by no means difficult to have dwarf Roses on their own roots. Early in November cuttings are taken, selecting wood of an intermediate development, what Mr. Perry calls "neither too hard nor too soft," and these are placed thickly in lines in any part of the garden where the soil is good. They can be placed between lines of dwarf-growing plants, if sufficient space be allowed them. A good proportion of these will strike; if only half of them, the propagator has little reason to be dissatisfied. By the following November the rooted plants are ready for transference to the beds. Mr. Perry prepares his beds by digging into his soil, which is a kind of red clayey loam, a good dressing of old frame manure and marl, and he recommends, where the ground is light, a good dressing of decayed cow manure. The plants are placed not less than from 2 to 2½ feet apart, and in the spring they are cut down to two eyes. During the summer these plants show shoots from 4 to 6 feet in length, which are pegged down in the following February, but pegged so as not to root into the ground, being brought only to within 3 or 4 inches from the ground, by using strong pegs cut out of old pea sticks. The shoots so pegged down are cut back to four or five eyes, and during the summer it is nothing for them to make shoots from 6 to 8 feet long. From this time, the pegged-down Roses may be said to be fully established. During the winter, when there is not much else to do, all the old blooming wood is cut away, leaving only three or four of the strongest shoots made the previous summer from the roots. This is done by Christmas, or soon after. Then, after the old wood is cut away, a coating of manure is slightly forked in among the plants, and the shoots are pegged down in the February following.

What are the advantages of this system of pegging down? it may be asked, and in this relation Mr. Perry's experience may be given in reply. He asserts—1st, That by adopting this system the flowers and foliage of the Roses are brought close under the eye, as the flowering wood comes from the horizontal shoots placed in this position by being pegged down. 2nd, The soil round the roots of the Roses is so effectually screened from sun and wind, that it is always cool and moist, even in the driest weather. 3rd, The Roses so treated bloom both earlier and later than by any other mode, as the points of the rods always produce their flowers before the base, and when the shoot from the base of the rod has bloomed, the "stools" or roots throw up strong young shoots that continue to bloom up to Christmas nearly, if the weather be at all favourable. (It is these young shoots that are pegged down the following spring, when they are shortened back about a foot to get to the matured wood.) 4th, Roses so treated may be said to last for ever. Some of Mr. Perry's plants, those on which he mainly depends for a supply of blooms for the earlier exhibitions especially, are ten years old, and yet are as good as when first planted, and throw shoots from 6 to 8 feet in length; in fact, they look more like climbing Roses, so vigorous is their development, and these shoots yield magnificent blooms in the autumn.

Mr. Perry shows his faith in this system by growing a very large number of Roses in this way, and his reliance upon it may be illustrated by stating, that up to July 17th of this year, he had taken ten first prizes as an exhibitor of Roses, including four silver cups, that he commenced to exhibit at Leeds on the 9th of June, where he won three first prizes, and all this had been done mainly by flowers cut from plants treated on the pegged-down system. How rapid and vigorous is the growth may be shown by stating, that on July 17th I saw a shoot from a stool of Louise Odier that measured 6 feet in length, while others were not much behind it.

"Be sure," says Mr. Perry, "never to plant Roses in this way, except they are on their own roots." Roses on the Manetti stock have been a great source of trouble to him, and he has long since abandoned their use altogether for pegging-down purposes. The strongest growers are always the best for this purpose, such as Madame Clémence Joigneaux, John Hopper, Général Jacqueminot, Senateur Vaisse, Madame Charles Wood, Comtesse Cécile de Chabrillant, Jules Margottin, Monsieur Bonceune, La Reine, Emotion, Souvenir de Charles Montault, Jean Goujon, Madame Julie Daran, Louise Odier, La Tour de Crouy, or any moderately robust grower. Tea Roses must not be employed for the purpose. Mr. Perry has never known a single instance of a Tea Rose succeeding when subjected to this process. In a paper contributed to the "Florist and Pomologist," for August last, Mr. Perry gave the outline of his process, and added, "Perhaps the cause of the pegged-down system not being more general, is the length of time required to bring the plants into perfection—viz., three years; but against this drawback the cultivator must consider that they never wear out, as the young wood only is each year pegged down, all the old blooming shoots being cut away. Some of my beds have been planted twelve years, and are in as fine condition now as when they were three years old."

But standard Roses are by no means neglected at Castle Bromwich; they are indispensable for the newer kinds of Roses, and they are always of great value at certain seasons to the exhibitor. Mr. Perry finds it best to plant the Briars before budding where they are to stand permanently; they root freely and finely into the ground, and are in no danger from being disturbed. This opinion was also held and acted upon by that fine and successful amateur Rose cultivator, Mr. J. T. Hedge, of Reed Hall, Colchester. Standard Roses, in Mr. Perry's opinion, should be on stems not above from 3 to 4 feet in height; he thinks that more vigour belongs to a stem of this height than one taller and more exposed. I asked Mr. Perry, while pleasantly discoursing about Roses, if it were possible to grow standards on their own roots, though, perhaps, in some danger of being thought a veritable tyro for my pains. He said he had never tried to obtain them so, but had essayed to bud on the old wood of dwarfs, and then peg the shoots down; the buds would start into growth, but in severe weather the shoot made by the bud was destroyed at the point of insertion in the stock, perhaps, because of the incision made in it.

In regard to the pegging-down of Roses, Mr. Perry recommends that the strong succulent shoots likely to be affected by frost should be cut away (the late growth is here referred to) and that pegging-down should not be attempted till all danger from frost has passed away, the danger being greatest at mid-winter.

With other floricultural weapons Mr. Perry wins many a hard-fought fight. As an exhibitor of Fuchsias he deservedly ranks high, and that not by exhibiting old plants of some three or four summers, but specimens 4 feet in height, and splendidly furnished, obtained from cuttings struck the previous autumn. With Zonal and large-flowering Pelargoniums he is rarely beaten, and as an exhibitor of Verbenas he is seldom excelled—never surpassed.—VIA.

AUTUMN CROCUSES.

I COULD assist the author of the article on autumnal Crocuses ("M. H.," *Acklam Hall, Middlesbrough-on-Tees*), in collecting the autumnal-flowering Crocuses. I might send him Crocus Kotschyi, C. cilicicus, and C. Boryi, autumnal flowering; C. reluchensis, C. reticulatus reflexus, and, perhaps, also Crocus iridiflorus major, and various Colchicums. All these

are, however, planted in the open border, and cannot be sent before next summer.—Max. Leichtlin (*Amateur Collector of scarce Bulbous Plants*), *Carlsruhe* (*Baden*).

PEACHES AND NECTARINES OUT OF DOORS IN 1869.

The past season will be memorable for many years. I read with great interest the causes to which the fruit-failure was attributed by our best gardeners. Some attributed the failure to the non-ripening of the wood, some to winds blowing away the pollen, and some to the wetting of the pollen. Not one of these was the reason. Wood was never better ripened here. Winds are most violent here, but that could not affect trees in orchard houses; and the same may be said in respect to wetness. The few Peaches and Nectarines that set here were situated where rains could easily touch the blossoms.

The following I believe to be the cause of failure—a want of heat—geothermal heat, or earth-warmth; for in heated houses the crops of Peaches and Nectarines were excellent, but out of doors and in unheated houses, with rare exceptions, the failure was general.

Here the Peach and Nectarine trees, in number about 127, were in full bloom by February 1st. I never saw a more beautiful floral sight, extending over 170 yards of wall. The blooms, with sheets over them on running rings on rods top and bottom, kept perfectly fresh for ten or more weeks, but there was no advance. At last out came a withering sun, and the blooms soon fell. About 220 Peaches and Nectarines were formed and grew well to a size as large as a marble, some larger, and then dropped off. I only landed about thirty-five Peaches and Nectarines.

The only tree that held on to perfection all its set fruit was a beautiful Nectarine, Rivers's Pine Apple. It set five fruits. It is quite first-rate, being beautiful and of first-rate flavour. Rivers's Orange Nectarine, the kind gift of Mr. Turner, set three and held on one. That was equally handsome, much larger, and as good. I specially recommend these two Nectarines.

Now, though the result was so small, after so much expense—the sheets, rods, rings, posts, and labour cost £25—still I am not disheartened: the failure was the effect of an extraordinary and abnormal winter and spring. Nothing daunted, I set about managing new wood for next year's crop; and to me there is no pleasure in horticulture so great as the daily supervision and management of my Peach and Nectarine trees.

The country here is so cold that I gave away my two nice Apricot trees, Gros Pêche [Peach Apricot] and St. Ambroise, both good sorts, especially the former. The Apricots here set well, but perish with the cold afterwards.

I will now say something of the way in which my trees are managed. They are pruned alternately, as recommended by Mr. Bréhaut in his excellent work. Some are wholly short-pruned, and have all *bouquets de Mai* attached to the main branches. All the trees here are finely furnished with triple buds; the leaves are off, and the wood looks red and hard. I do not disbud any but the back buds; all the others are left on, and shortened according to judgment. By this means the trees are kept breaking all over, and the plants have lungs at short distances.

Gardeners disbud largely at the time the plants want lungs most—that is, when the sap rises most abundantly; and then by long-pruning, having made their base and centre bare, and having produced gum and canker, they ask in the periodicals, "Why do my fruit trees degenerate?" It is always bad in my opinion, when sap is in activity, to disturb the economy of the tree by large removals of leaves or shoots at one time. I stopped my shoots—not the extensions—on July 12th. On August 12th I cut off half of every leaf, to let in sun and air to harden the wood; and I removed a further portion of each leaf on September 12th. Till fruit is off no leaves should be removed, but only be penned back. Maiden trees I cut to 1 yard high, and train the wood herring-bone fashion. This causes them to bear frequently in the first, and always in the second year. This, of course, depends on the maturation of the wood. Lord Palmerston (two plants), has never been cut down, and next year (its second year), it will bear abundantly.

I will not say a word against orchard houses, heated or otherwise. If they are well managed they are good; but I will not allow that we cannot ordinarily in England grow capital crops of Peaches and Nectarines without them. I like difficulties. I remember what Napoléon I. said—"I delight in danger and difficulties; it is for your kings of Cockaigne to sit at ease." The difficulty of the attempt forms the triumph of the accomplishment.

I differ from many gardeners and amateurs in these two things: I tie with bast instead of using vermin-harbouring shreds, and I keep many sorts instead of a few large ramblers. I allow them only 18 inches of border, remove them frequently with care, and root-prune them. The nails are cast iron; instead of drawing them I either leave them where they are or break them off by a gentle tap. Thus, there are neither shreds nor holes for harbouring insects. I keep down red spiders with a syringe, and sponge with methylated spirits (Mr. Rivers's recommendation) the branches affected with scale, which here is very troublesome. It is instant death to the insects and a very cheap remedy—6*s.* per gallon.

I have just added three of Mr. Rivers's seedlings to my collection—viz., Early Rivers, Magdala, and the Peach Nectarine. The last two are especially fine growers. At present Magdala is the favourite.

I conclude by saying that as many as are thoughtful and wise gained better fruit than Peaches and Nectarines, if they learnt by last year's failures how abortive are all human attempts unless favoured by the Divine blessing.—W. F. Radclyffe, *Okeford Fitzpaine*.

THE NEW GIGANTIC AROID FROM CENTRAL AMERICA.

Our readers will remember that some six weeks since a new gigantic Aroid was exhibited at one of the fortnightly meetings of the Royal Horticultural Society. This extraordinary plant, which has proved to be the sole representative of a new monotypic genus of plants, has been figured in the last number of the "Journal of Botany," where a detailed description may be found from the pen of its discoverer, Dr. Berthold Seemann. It is allied to the genus Dracontium, but differs from that genus in having twice as many stamens as perigonal segments. It produces but a solitary leaf, this one leaf with its petiole being some 14 feet in length. When the leaf has quite died down the flower appears, after the manner of the Colchicum of our meadows, but the flower of this giant Aroid measures 2 feet in length, and 1 foot 8 inches in breadth. The leaf of the one figured attained a height of 7 feet in two months, the leafstalk acquiring a circumference of 9 inches. The same plant ultimately nearly attained the dimensions of the Nicaraguan plants: the leafstalk has a beautifully mottled metallic surface, brimstone yellow in colour, barred and striped with purple, looking, says Dr. Seemann, "like a snake standing bolt upright at the command of some eastern charmer." It was discovered in January of the present year near the Javali Mine, in the Chontales Mountains of Nicaragua, and is altogether the largest Aroid of which we have any knowledge. Its flowers emit the odour peculiar to many Areideæ. The base of the spadix, preserved in spirits in Central America, is now in the herbarium of the British Museum.

Dr. Seemann for several good reasons has named this unique plant *Godwinia gigas*, in honour of one of the Fellows of the Royal Horticultural Society—viz., Mr. George Godwin, F.R.S., F.R.I.B.A., F.S.A., &c., architect, author of "Another Blow for Life," &c., one of the founders of the Art Union of London, and editor of the *Builder*, mainly in recognition of the willing and substantial aid he has so often rendered to literature, science, and art in this country, and for the active support he has given to window gardening in the metropolis, thus helping to spread successfully amongst "even the humbler classes that taste and love for plants, without which, after all, the race of botanists would soon be extinct."

I think a generic name has seldom been better or more deservedly applied than in the dedication of this genus to Mr. Godwin, for his exertions for the benefit and well-being of the people.—W. G. S.

HARDINESS OF PLUMBAGO CAPENSIS.

Of this plant, which is such a special favourite with your correspondent "C. A. G.," I have had some experience, with very little trouble, for the last twenty years.

A large stub on my lawn was furnished with various plants about the year 1850, and among them was Plumbago capensis. Some of the plants were housed for the winter, and some the

winter destroyed; but this little blue flower was allowed to keep its place, and it not only survived, but waxed stronger and stronger each winter, bracing its constitution for the endurance of yet greater chills. For some years past it has had undisputed possession of the stub, completely covering it with its mantle of blue, and forming a strikingly pleasing variety among the reds, whites, and yellows around it. I think the plant may now be considered quite safe, it having stood the test of some very severe winters.—W. J., *Staplehurst, Kent.*

PELARGONIUMS FOR COVERING WALLS.

I see in an answer to a correspondent, in No. 449, that you recommend Pelargonium The Clipper, as suitable for covering a conservatory wall; having grown it in a similar manner, but chiefly for its flowers, I agree with the recommendation, thinking this variety one of the very best for the purpose. In the first batch of the late Mr. Beaton's crosses, sent out by Mr. W. Paul, there are several varieties of sufficient vigour and very distinct in colour, suitable for anyone who may want to plant with the above object. Those which I have grown and can recommend are—Mrs. William Paul, a Nosegay variety with large pink flowers; Amy Hogg, also a Nosegay, with a very large truss and dark rose-coloured flowers; Excellent, rosy scarlet, having a large truss, and good-shaped, thick-petaled flowers; Princess Liechtenstein, salmon pink, and very large. There is another desirable variety called Madame Rudersdorff, which, though more of a salmon colour out of doors, has nearly white flowers in-doors; although it is not of such vigorous growth as the preceding, it is a profuse bloomer. Like all which I have named, it is capable of covering a piece of wall 10 feet high by 6 feet wide, though not in so short a time as the other varieties.

I think for the purpose referred to, this section of the Pelargonium should be more grown because of the quick growth and attractive qualities of the plants, as well as an abundant supply of flowers for cutting being almost a certainty for at least nine months out of the twelve. Their culture, too, is very simple, and unless the plants are mismanaged or neglected they never look unsightly. Mine are growing in a rather heavy, rich, turfy loam, and road drift, with a good sprinkling of charcoal; they have good drainage, manure water at times, and two prunings in the year—namely, in March and August. The pruning chiefly consists in thinning and shortening the shoots. The second pruning gives the plants additional vigour for flowering, which they do all the winter.

With the above Pelargoniums, a plant or two of the lilac-flowered Heliotropium corymbosum may be grown. It flowers the whole of the winter, and most abundantly if treated in a similar manner to the Pelargoniums. With the flowers of the different Pelargoniums I have named, the Heliotrope, and a few sprigs of the Maiden-hair Fern, a bouquet may be made at almost any time, and if the flowers be arranged properly and tastefully it will be fit for any drawing-room.—T. Record.

BUDDING VINES.

Some time since on paying a visit to Trentham, I saw a lot of Vines—Lady Downe's I think—budded with Madresfield Court. Nearly every bud had taken, and they had made fine canes. Though few persons have grafted more Vines than I have had worked here, yet in my ignorance I thought these budded Vines better worth seeing than anything which had come under my observation for a long time, and I set Mr. Stevens down in my mind as a thoroughly clever man. I have seen since an article or two in which the writers make out that there is nothing new in budding Vines, that to them it is quite an old practice; in fact, they and their friends have carried on the practice so extensively, the wonder is how so many of us can have been so behindhand as not to know all about it years ago. Well, it is quite clear Mr. Stevens need not show his Vines to anyone, or, at least, if he do show them, any pride he might have felt in doing so is now quite out of place. The practice, if not as old as the hills, is a very old one. Is it not strange that when anything particularly good and which appears quite new is described, it always is old? I am quite surprised no fossil telegraph posts have been found yet.

Though it is a bad thing to have to confess ignorance, yet it is worse to be unwilling to learn, and I think some of your readers would be glad to know how a young Vine can be cut up into single eyes, and each eye made into a strong fruiting cane, or rather thick rod, in one year. I cannot help thinking that if Mr. Stevens would describe his practice, some of your numerous readers who have not seen the Vines in question, would be much obliged to him for the information.—J. R. Pearson, *Chilwell.*

[We wish Mr. Stevens would oblige us with a detail of his practice. Few persons know how to bud the Vine, although directions were published in 1844.—Eds.]

INDUSTRIAL EMPLOYMENT ASSOCIATION,

ESTABLISHED FOR THE PURPOSE OF PREVENTING PAUPERISM AND CRIME, BY RESCUING DESTITUTE CHILDREN, AND EMPLOYING "WASTE LABOUR ON WASTE LAND." Offices: 35, Parliament Street, S.W.

This Society which has, as our readers will observe, a somewhat long name—yet a shorter one would not, perhaps, properly describe its aim and objects—has recently issued its third report, which is now before us. It takes for its motto, "Prevention is better than cure," and as Lord Stanley has observed, "The principle of the Association is sound;" Lord Shaftesbury, Sir Robert Peel, and others well capable of judging have also written in its favour. At the same time we would warn its promoters not to be too sanguine.

We have at this time a great number of able-bodied workmen leaving our shores, yet we have in the United Kingdom upwards of 31,000,000 acres still uncultivated, some of it capable of high cultivation. These things ought not to be. Then when we consider that children trained to farming operations almost always grow up strong men and women, and capable of earning an honest livelihood, we must regret still more this waste land. Children run to waste for want of employment, land runs to waste for want of cultivation; the former are just fitted to remedy the latter, the latter to remedy the former; and yet this is not done. I wish that the Government would undertake the work. The waste land is England's; the waste children are also England's. This Association endeavours to move both Government and people; we wish it success. We can ourselves speak of the benefit which has arisen from reclaiming land from the dominion of the water; thus Whittlesea Mere was a quarter of a century since a useless portion of England, the land formerly its bed now feeds oxen or grows good corn.

Supposing newly-cultivated land falls into the hands of small holders, much would depend upon their knowledge of cultivating the soil. Thus Fergus O'Connor, when he started his Land Scheme, established a lot of cottages on five-acre plots, near Lincoln. The first occupiers totally failed; they were artisans, and ignorant of soil-culture. Their successors are doing well, being cultivators. One of them is clerk to Rev. Mr. Ellison, he bought one of the five-acre plots, and he and wife and daughter cultivate it. He was a gardener, has a vinery, a Cucumber house, and plant house. He sold £40 worth of plants last year, besides Grapes, &c. It must, however, be observed that the five-acre plots are good land. We are justified in believing that some waste land ought to be brought under good cultivation, and suitable renters could obtain a good livelihood. As in America, so in England, the poorest crowd into the towns; thence come overcrowding, horrible vice, disease, misery extreme, and not seldom crime. If these wasted labourers could be brought to work on now waste land, the tide of human life would be turned back to pure air, clean water, and accommodation fit for beings with mind and souls. Could this Society carry out its object, the happiness and morality of the masses would be increased, and, of course, society itself benefited. The Society has need of funds to continue and strengthen its present staff and labours, and the public must come to its aid, and provide funds of at least £300 a-year for rent of offices and necessary expenses. Those who have to give could surely send a trifle to the Secretary, 35, Parliament Street. Their mite would, perhaps, produce a large interest of good to man.—Wiltshire Rector.

POMOLOGICAL GLEANINGS.

Cherries in the United States.—At the recent meeting of the American Pomological Society at Philadelphia, it was suggested that each delegate should name one variety of Cherry that was considered the best and most flourishing in the section where he resided. This resulted in four of them naming the Kentish, called in the States the Early Richmond, and six Coe's

Transparent, a pale-coloured and rather small Heart Cherry. It seems, therefore, that our large Bigarreau and Heart Cherries do not succeed well either in the eastern or western States. The reports come from Kansas in the west to Massachusets in the east. The cultivators report that the large and choice sorts of Cherries rot on the trees.

—— A few years since if any one had foretold that a good Pine Apple would be sold in London for 2s., and that a large slice would be sold by costermongers for a penny, he would have been laughed at as a visionary. Now, however, the lessons of acclimatisation, and the rapidity of steam vessels, have enabled Mangoes to be sold by our fruiterers. They are raised in Madeira, but are not of the best variety. There are two superior kinds in India, the Small Scarlet and the Malda, the last named having a green outer skin. We were amused the other day at seeing a gentleman attempting to eat one as he would an unpeeled Apple. The proper mode is to remove a part of the outer skin, and scoop out the pulp with a spoon. If the first Mango tasted is well flavoured, the taster will continue to like the fruit; but if the first has a turpentiney flavour, he will never incline to partake of another.

—— Beurré Hardy Pear.—This grand Pear, grand in habit as in fruit, bears well in Scotland. A specimen has been sent to me from near Kelso, where it flourishes as a standard, and is very hardy. It forms a magnificent pyramid, and ought to be planted by the acre. This Pear has been named after Mons. Hardy, formerly of the Luxembourg, a clever pomologist, and English-like in his kind modest bearing.—T. R.

ROYAL HORTICULTURAL SOCIETY.

November 16th.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Lane & Son, of Berkhampstead, sent three enormous bunches of Muscat of Alexandria Grapes, which had hung since they were ripe in July. The berries were plump and the flavour excellent, though the Muscat flavour was somewhat gone. A special certificate was awarded to them. They also exhibited three handsome bunches of Alicante of large size. Mr. T. Wattam, gardener to T. Longman, Esq., Shendish, Hemel Hempstead, sent three very large bunches of Alicante, well grown and well coloured, which received a special certificate. Mr. Whibley, Mount Pisgah, Sheffield, sent a bunch of Trebbiano and of Chaouch grown in a cool house. Mr. Melville, of Dalmeny Park, sent a small portion of his seedling Perfumed Muscat Grape. The portion sent was too small for the Committee to form any opinion about the size or form of the bunch, but the flavour of the few berries exhibited was very rich and perfumed. Mr. Melville was requested to send a perfect bunch. Mr. R. Fenn, of the Rectory, Woodstock, sent samples of Espiran Grape grown against the wall of a dwelling-house and some from a small vinery, to show the crop from which he had made 342 gallons of wine this season. Mr. Wells, of Southend, sent six bunches of Frankenthal Grapes grown in ground vineries. They were large, and thickly set with well-formed highly coloured berries. They were awarded a special certificate.

Mr. Fowle, gardener to Sir Henry Mildmay, Dogmersfield, sent a basket of large, handsome, and very beautiful Pitmaston Duchesse d'Angoulême Pears, which were awarded a special certificate. Mr. H. Moore, of the Gardens, Bradley Green, near Congleton, sent fruit of a seedling Pear, which was thought very highly of by the Committee, but as the fruit was rather too ripe the Committee were desirous of seeing it again. Mr. G. F. Wilson brought a dish of Triomphe de Jodoigne grown on a pot tree. The fruit were large and handsome, but the flavour was not yet developed, being rather unripe. From the Society's garden came fruit of Beurré du Cercle, Doyenné du Comice, the latter most delicious. Col. Le Couteur, of Jersey, sent dishes of Nouveau Poiteau, Soldat Laboreur, and Crasanne.

Messrs. James Carter & Co., sent leaves of Celery attacked by a disease which proved to be produced by the Puccinia apii. Mr. Charles Turner, of Slough, sent a new Kidney Potato called Beaconsfield, of great excellence. The tubers were cooked, and the Committee unanimously awarded a first-class certificate. Mr. Ingram, gardener to the Duke of Rutland, Belvoir Castle, sent a collection of fine large Potatoes, consisting of Dalmahoy, Ronnd Regent, Paterson's Victoria, Scotch Blue, Long Regent, and Paterson's Economist. The Committee awarded them a special certificate. Mr. Samuel Horley sent a few sticks of Horley's Conqueror Celery, but they were not of sufficient merit to obtain special recommendation. Mr. Lidgard sent a stick of Manchester Solid Red Celery, large, thick, and very solid, which was highly commended. Ocean Pride is a dwarfer variety than the preceding, but not so good in quality, being more of the flavour of Mr. Horley's. Seedling Pink is also a dwarf variety of Red, but inferior in flavour. Horley's Conqueror was also exhibited by Mr. Lidgard, well-grown, but it was much less close and much inferior in flavour to the Manchester Red Solid, which the Committee considered the finest-flavonred of any. Mr. Lidgard was awarded a special certificate.

Mr. Shepherd, gardener to P. Northall Laurie, Esq., Paxhill Park, Sussex, sent a dish of very handsome fruit of Calville Blanche Apple, grown in the open air, to which a special certificate was awarded. Mr. Carmichael, of Sandringham, sent a neat little plant, thickly covered with small, conical, yellow fruit, of a seedling Capsicum. It is evidently a seedling from the West Indian variety called the Scotch Bonnet, has the same flavour, but the plant is dwarfer and would be very useful for decoration. Messrs. Hurst & Son sent a dish of Bedfordshire Champion Onion, which was considered an ordinary sample of Globe Onion.

Mr. Dancer, of Little Sutton, exhibited a large number of cobs of Indian Corn, grown by Mr. Scarrell, of Littlehampton, Sussex, and also by himself. Mr. Scarvell has grown this variety for twenty years, and ripens it every year. Mr. Dancer has grown it for two years, and has always found it ripened well. With such a variety as this, the cobs of which are equal to any we have seen imported from America, there is no reason why Indian Corn may not be grown as a field crop in the warmer soils and early situations in England. It may not be generally known that the London Omnibus Company, since they began to feed their horses on Indian Corn, are saving some thousands of pounds annually. We hope yet to see this variety of Maize become more generally grown.

Messrs. E. G. Henderson & Son sent fruit of Macadamia ternifolia, which was pronounced to be one of the finest-flavoured nuts. This is a new introduction by Messrs. Henderson. The tree is half-hardy, requiring the protection of an orchard house. The nut is the size of those of the North American Walnuts, and much of the same shape, and contains a large solid-fleshed kernel of very rich and excellent flavour.

The Onions exhibited by Col. Le Couteur at the last meeting were cooked and submitted to this meeting, when a special certificate was awarded. Mr. Lovegrove, of Maidenhead, sent two bottles of home-made wine made from Black Hamburgh Grapes grown in the open air. They were both sparkling and of a pink tinge, and were both good sound wines, neither too sweet nor at all acid, and were considered most successful examples of a really wholesome and excellent wine from home-grown fruit. They were awarded a special certificate.

Capt. J. R. Brookes sent a large Gourd grown by the boys at Feltham Industrial Schools, weighing 124 lbs. It was awarded a special certificate. M. E. Treeve, Esq., exhibited a large Gourd grown in a small back garden in Edwardes Square, Kensington, which weighed 60 lbs.

Floral Committee.—Rev. J. Dix in the chair. Mr. Perkins, of Lymington, sent two seedling Primula sinensis with double flowers, young plants of Fire King Tricolor Pelargonium, and cut flowers of Prince of Orange Picotee. Messrs. Veitch sent a fine collection of Orchids, among them a remarkably fine specimen of Oncidium Rogersii, which had previously received a first-class certificate; Oncidium cnranthenm, with bright yellow flowers, which was awarded a first-class certificate; Cycnoches musciferum, Miltonia Moreliana, Thrinax elegans, and Primula sinensis variegata. A special certificate was awarded for the group. Mr. Bull sent Litobrochia umbellats, which received a first-class certificate; this very fine Fern had previously received a second-class certificate. Mr. Bull also sent Dicksonia Youngii (squarrosa ?); Dracæna Guilfoylei, a promising plant, which it was requested should be shown again; and Oncidium ramiferum. The collection of plants received a special certificate. Mr. Rowe, gardener to Mrs. Lewis, Roehampton, sent six Primula sinensis, too early for their merits to be decided on.

Messrs. Downie, Laird, & Laing exhibited a collection of Zonal Pelargoniums, for which a special certificate was awarded. This is not the season to form any just idea of this class of plants with regard to colour, &c.—a special certificate was awarded. Messrs. Lee, of Hammersmith, sent Laurus camelliæfolius, a very bad-foliaged Laurel. Mr. Linden, of Brussels, exhibited a small collection of Orchids. Maxillaria splendens, very much like a Lycaste, received a first-class certificate. He had also Stenia fimbriata, and others. A first-class was awarded. Mr. Green, gardener to W. Wilson Saunders, Esq., had a Myrsiphyllum, and Siphocampylus bulgens (Humboldtii ?), which received a first-class certificate. Mr. Jacques, gardener to P. Cunliffe, Esq., Croydon, sent a species of Sarcanthus. Mr. Williams contributed a collection of beautiful Orchids, and received a special certificate. Among them were Maxillaria nigrescens, Oncidium xanthodon, and Masdevallia candida. Mr. Wilson, gardener to W. Marshall, Esq., sent a beautiful specimen of Sarcanthus bigibbus, which was awarded a first-class certificate. Mr. Turner, of Slough, sent Tropæolum Ochroleucum, still maintaining its good character, and Tricolor Pelargonium Mrs. Hally. Major R. Trevor Clarke sent two hybrid Pelargoniums, which were generally thought to be in a retrograde position.

Dahlia imperialis, from Chiswick, was worthily awarded a first-class certificate. Branches of this superb plant were exhibited in pots, and were generally admired. Messrs. Henderson sent eight Japanese Chrysanthemums, and Messrs. Salter a seedling Japanese Chrysanthemum The Sultan, a noble deep rose flower, which was awarded a first-class certificate.

On this occasion prizes were offered by W. Wilson Saunders, Esq., for the best collection of winter bedding plants in pots or boxes. There was only one collection shown, that from Messrs. Standish and Co., of the Royal Nurseries, Ascot, who took the first prize. Their

collection was extensive and fine, and very neatly arranged in circular groups rising from each end to the centre, with larger specimens placed between the groups, the margins to the latter chiefly consisting of plants with variegated foliage. The centre was a group of Hollies, a variegated plant covered with berries occupying the middle, and this was surrounded by dark-leaved kinds, and then by dwarf golden-variegated Hollies. Among the plants shown were Osmanthus ilicifolius and the dwarf variegated kind; green-leaved Aucubas, surrounded by the white-variegated Euonymus japonicus latifolius, an extremely hardy plant, having withstood a temperature of 40° below freezing without injury; Abies Lowii; Podocarpus coriacea; Aralia Sieboldii, surrounded by Yucca filamentosa, and the variegated Bamboo; Juniperus japonica albo-variegata, with finely variegated glaucous foliage; Cupressus Lawsoniana compacta; Ilex balearica hybrida, a handsome dark-leaved Holly; Retinospora obtusa, one of the hardiest plants ever introduced from Japan, and a variety of it called nana gracilis, a pretty plant for small gardens; Taxus coriacea, which stands the winter at Flushing, while the common Yew is injured; Cryptomeria elegans, and Thujopsis dolabrata, both extremely hardy; Thujopsis ketevirens; and a group of seedling Aucubas, with grafted standards interspersed, the berries for the most part not yet coloured; but a great recommendation of the berry-bearing Aucubas is, that their fruit remains beautiful for several months. Ligustrum coriaceum, which was also shown, deserves especial notice on account of its thick shining leaves, which render it very suitable for cultivation in London, as the soot can be easily washed off. An Abies, provisionally named Abies japonica, is remarkable for its rapid growth, plants in 3-inch pots this spring having by this time made a growth of upwards of 2 feet. Messrs. Standish had, besides, in their collection numerous other fine sorts of Conifers belonging to the Abies, Cupressus, Juniperus, and Retinospora families.

Prizes were also offered by the Society. These in Class 2 were for four large-flowered Chrysanthemums in pots. The first prize went to Mr. James, gardener to W. F. Watson, Esq., Isleworth, for plants grown in the shape of inverted cones, and consisting of Lady Talfourd with fifteen blooms, Mrs. G. Rundle with seventeen, Jardin des Plantes with thirteen, and Empress of India with ten. The blooms were large and fine, especially considering the number allowed to each plant. Mr. Rowe, gardener to Mrs. Lewis, Roehampton, was second with a splendid specimen of Prince of Wales, Lady Harding, Alma, very fine, and Golden Christine, all plants of large size and admirably bloomed. Mr. Forsyth was third.

Class 3 was for Pompons, and the first prize was taken by Mr. Forsyth with excellent specimens of Bob, Andromeda, Sainte Thais, and Golden Aurore; Mr. Rowe being second with very large specimens of the Anemone-flowered kinds Miss Nightingale, Mr. Astie, Marguerite de Wildemar, and Antonius.

Class 4 was for twelve cut blooms, nurserymen. In this Mr. Forsyth was first with Princess of Teck, Isabella Bott, General Slade, Princess Beatrice, Mrs. Heale, John Salter, Princess of Wales, Oliver Cromwell, Lady Harding, Rev. J. Dix, &c.

Class 5 was for the best six blooms. Here Mr. Rowe was first with very fine examples of Queen of England, John Salter, Lady Harding, Empress of India, and Jardin des Plantes. Mr. Douglas, Loxford Hall, was second with fine blooms of Mrs. G. Rundle, Prince Alfred, Her Majesty, Rifleman, Princess of Teck, and Prince Alfred. Mr. Berry, Roehampton, was third. Several other good stands were exhibited, and Mr. Rowe sent a fine stand of twenty-four, for which he received a special certificate.

Class 6 was for twelve plants bearing decorative fruit, and of these there was only one exhibitor, Mr. Bull, who had a first prize for well-fruited plants of Rivina lævis, Ardisia crenulata, Skimmia japonica, and varieties of Solanum capsicastrum.

General Meeting.—W. Wilson Saunders, Esq., F.R.S., in the chair. After the election of five new Fellows, and the usual announcement of awards, the Rev. M. J. Berkeley said that on examining Bonvardia jasminiflora, shown at a previous meeting, with specimens at Kew, it proved to be only a variety of B. longiflora; also that a Gongora from the Bishop of Winchester was Gongora bufonia of the "Botanical Register." Mr. Berkeley then made some remarks on Picea cephalonica and P. Pinsapo, by which it appeared that the latter might not be a true species after all, but further evidence on this point, as furnished by specimens from Spain and Africa, was considered desirable. Macadamia ternifolia, noticed in our Fruit Committee report, was next mentioned, as well as the branches of the magnificent Dahlia imperialis from Chiswick, where the plant grew as much as 12 or 14 feet high, but would not flower unless placed in a warmer temperature than that of the orchard house. The tubers were brought from Cannes by Mr. Bateman. The flowers had been exhibited last December, but not in such perfection as on the present occasion. As regards the pretty blue-flowered Coleus barbatus, from Chiswick, it was there named Coleus lanuginosus, but the latter is far more woolly than C. barbatus, which extends from India to Abyssinia. Messrs. Standish's collection of winter plants was then mentioned as being most praiseworthy, and the hardiness of some of the species it contained referred to.

The Chairman said that the collection just mentioned was, indeed, a noble one. When he cleared his beds out of doors of their summer occupants, he filled them with evergreens, which produce a charming effect. These plants should be potted when young, and never allowed to become pot-bound; then when autumn came the pots should be plunged, or, instead of plunging, after arranging the plants Brake Fern might be pushed in among the pots, and would form a brown fringe round the outside. The tallest plants should be placed in the centre, the shorter at the outsides, and the colours of the foliage could be varied, and Hollies, Skimmias, and other berried plants would give a further variety. Thus a pretty winter garden might easily be made. With regard to a Siphocampylus shown by himself as S. fulgens, he saw its name had been changed to S. Humboldtii, but the former was that under which he had received it. Referring then to Dahlia imperialis, he had had it a year, and it grew with him to a great height, and had to be extended along the house; but he believed it could be made to flower at a much lower height by grafting. The Myrsiphyllum, from his own garden, was pointed out as a most elegant plant at night, though exhibiting no great beauty by day; also Oncidium Rogersii, one of the most graceful of the Oncidiums, and as well worthy of cultivation as any.

The proceedings then closed with the announcement that the next meeting will be held December 21st.

GROWING CELERY IN BEDS.

Having, as "J. T." described it (see page 379), a large family to supply out of a small garden, I last year adopted the bed system, and as an experiment I planted one bed with five rows, and one with four. The result was very satisfactory, but the bed with four rows was decidedly the better, so this year I have planted both beds with four rows in each. I used the Celery from the bed with five rows first, as I certainly found it did not keep so well as the other. The sorts I grew last year were Ivery's Nonsuch, pink, which I consider the best variety for general use as, though it does not grow so large as some kinds, it has an excellent flavour. Cole's Defiance Red, also proved an excellent Celery with me, and it keeps better than Ivery's. I grew the same this year with the addition of Matchless, which seems very solid, but I have not used it at present, so cannot say much about it.

In April, I make beds 4 feet 6 inches wide, throwing out the soil to the depth of 18 inches, and as I have no convenience for hardening-off bedding plants, of which I this year planted out 2700, I rake and level the beds, placing a little soot or lime at the bottom to keep worms from entering the pots. I then put the bedding plants in, covering up at night with deal shutters which I take off the Vine borders, and this protection has answered very well. As soon as the bedding plants are taken out, I dig-in about 12 inches of manure, planting the Celery 12 inches apart in the rows, and 10 inches from row to row, care being taken to keep the plants in line, otherwise they are difficult to earth-up.

The Celery is well watered all the summer, the surface soil well stirred, the weeds kept down, and particular attention paid to removing the suckers. I find it is better to tie the plants up loosely a fortnight before earthing, which I do at the end of August. I then earth-up the half of one bed quite to the leaves, ready to be used in the first week of October. The other half I only partly earth-up, and finish earthing in September. The other bed which I require for late use is only earthed-up 9 inches, as I prefer stable litter well packed round and among the tops, as while it blanches it, the litter prevents damping.

I may add my kitchen garden lies very low, being on the bog, and though I have drained it thoroughly, it is naturally damp. I must also state that for very early use I grow a single row of white and one of red to save the beds. I cannot account for the three inside rows doing so badly with "J. T.," mine being as nearly alike as they can be, and as yet I have not had a bad stalk this season, but I should think much depends on the aspect of the beds; my beds run from east to west, but in a wet heavy soil I should alter their direction. I write these notes merely to show that good Celery may be grown in beds, though I believe I am the only one who grows it so in this neighbourhood, and during the summer I am frequently asked how to earth it up.—Stephen Castle, *Gardener to James McConnel, Esq., Bent Hill, Prestwich.*

CHRYSANTHEMUMS AT Messrs. SALTER & SON'S, VERSAILLES NURSERY, HAMMERSMITH.

When a flower has attained such perfection of form as the incurved varieties of the Chrysanthemum now exhibit, when almost every possible colour is represented, when it would seem that size can go no further, it is evident that progress

must be very difficult, but that it is not impossible the grand display of Chrysanthemums at the Versailles Nursery affords abundant proofs. Year by year it improves, and the improvement being so constant, it has become almost a needless repetition to mention the fact; but this autumn, in the number, size, and quality of the blooms, and in the arrangement of the plants producing them and of those employed as adjuncts, Messrs. Salter's exhibition is far in advance of that of any previous year. It is a splendid sight which no one interested in the Chrysanthemum should miss, whether his object be to see the best of the kinds already sent out or to form an estimate of those which are to come, and of which Messrs. Salter's nursery is the head-quarters.

Taking the flowers already in the hands of the public first, the best at present in bloom are :—

White and Pale Blush.—White Beverley; Rotundiflorum, a beautiful new variety of this year, a sport from Golden Beverley, delicate blush changing to pale lilac, and almost globular in form; Princess of Teck, fine, very pale blush; Mrs. G. Rundle; Virgin Queen; Novelty; Fleur de Marie, a beautiful Anemone-flowered kind, quite 4 inches in diameter; and Beauty, blush, nearly white.

Shades of Rose-colour.—Princess of Wales, Lady Hardiog, Princese Beatrice, Plenipo, sent out in the spring of thie year, rosy lilac; Lady Talfourd, not large, but forming beautiful specimen plants, and when well grown furnishing fine cut blooms; Compactum; Finette, a beautiful lilac peach Anemone-flowered variety of this year, delicate in colour, and dwarf in habit; Pink Perfection, also new this year, very large and beautiful both in form and colour; Bella Donna; Themis; Lady Slade; Prince Alfred; Fingal, magnificent, the blooms 5 inches in diameter, and the florets an inch in breadth—this Mr. Salter considers the grandest flower ever raised; and Christine, beautiful for specimens and conservatory decoration.

Crimson, Claret, and Purple.—Prince of Wales, Lord Clyde, crimson with bright tips, splendid for conservatory specimens; Sanguineum, as yet hardly out, but a finely incurved very showy kind, especially when grown for specimen plants; Julie Lagravère, dark velvety crimson, splendid in colour and very effective as a specimen plant; Ossian, very large; Prince Albert, reflexed, fine for specimens; Mr. Wyness, beautiful mulberry colour; Captivation, purple, with a white bottom; Progne, splendid in colour, late-blooming, and very effective, though the flowers are rather small; Hercules, very large; Josiah Wedgwood; and Purpureum elegans, darker in colour than Progne, and, like it, brilliant when grown as a specimen plant.

Yellow and Orange.—Golden Beverley; Iona; Jardin des Plantes; Guernsey Nugget, beautiful pale yellow; Golden John Salter, new this year, a sport from John Salter, rich in colour; Bronze Jardin des Plantes; Aureum multiflorum; Etoile Polaire; Orange Annie Salter, new this year, a fine sport of Annie Salter.

Orange and Brown.—Little Harry, not large but beautifully incurved; Bernard Palissy, Rev. J. Dix, Beethoven, new this year, with broad finely-incurved florets, bronzed red, tipped with yellow; John Salter; General Slade; Golden Eagle; and Dr. Brock.

The novelties to be sent out during the next spring always constitute a most interesting portion of the display at Messrs. Salter's, and of these there is no lack this year, while there are others which will only show themselves later in the season. Among those at present in bloom are the following—viz., Duke of Edinburgh, very large, finely incurved, rosy lilac with a lighter centre; Norma, not large, but a very pretty, ivory-white kind, of compact habit; Miss Hope, medium-sized, lilac, with a lighter centre; Ondine, medium-sized, cream-coloured and lilac, with a buff centre, and promising to be finely incurved; Princess Louise, Anemone-flowered, pale blush with a high lilac centre; Mrs. Wreford Major, deep pencilled rose-colour, of compact habit, and likely to form a fine conservatory plant; and Marginata, a fine Anemone-flowered kind, blush, with the "guard petals," or outer row of florets, edged with rosy lilac. This Mr. Salter thinks will give rise to a new strain. Besides the foregoing, there are several others very promising, but not sufficiently expanded to show what they will be.

The Japanese Chrysanthemums are of themselves a great attraction, being so distinct and varied in their forms, and some of them so effective for conservatory decoration. The novelties among these are The Sultan, resembling The Daimio in its general character, but of a more rosy colour, very free-flowering, and, like the variety just named, highly ornamental as a conservatory plant; Aurora, also with ribbon-like florets, bright orange; Emperor of China, quilled, waxy blush, with the centre rose-coloured mingled with yellow; Viceroy of Egypt, deep rosy purple with a white back, and, as with the preceding, the first row of florets is quilled, and the rest flattened and curled inwards towards the tip; Chinoise, bright red, tipped with yellow, very distinct, and likely to be an acquisition; Chang, very large, with broad twisted florets, dull red, with a yellow back; Giant, quilled, pale lilac, so large that when spread out Mr. Salter assures us the flowers measure nearly a foot in diameter; and Gold Thread, also quilled, golden amber, and the leaves of the plant have likewise a well-marked golden tinge, especially in summer. Negro, splendid in colour, dark maroon; and Mandarin, with yellow ribbon-like florets, are the remainder of the named kinds, but there are several more coming on, and among them a large unnamed kind with jagged white and sulphur-coloured florets.

Of the Japanese varieties already sent out, The Daimio, Red Dragon, Hero of Magdala, tasselled, Indian red with a yellow back; Comet, reddish orange with a yellow back; Aimée Naurel, white, with rosy lines; Meteor; James Salter; Morgiana, with broad red florets backed with yellow; Regalia; and Dr. Masters, may be mentioned as well worthy of attention.

In addition to the Chrysanthemums there is an interesting collection of Sedums, Sempervivums, and other succulent plants, several of which are either new or rare. Among these may be mentioned Echeveria pulverulenta, with the leaves having a beautifully powdered appearance; E. agavoides, like a little Aloe; Cotyledon fasciularis; Agave Verscheffelti obovata; Rhipsalis prismatica; Sempervivum glutinosum, &c.

At the entrance of the house is an undulated bank beautifully carpeted with Mentha corsica, Saxifraga hypnoides minor, Sedum sexangulare, and Sedum glaucum; and the opposite corner is filled with an elegant mosaic design executed with these plants, Echeverias metallica, sanguinea, and glauca, and Pachyphiton bracteosum, the whole being backed with Adiantum cuneatum, the showy Chilian Beet, Centaurea candidissima, and Isolepis gracilis.

Next to the Chrysanthemums, the most interesting object in the house is the new Dahlia imperialis, which Messrs. Salter grew last year but without flowering it, although the plant became much too tall for the house. This year Mr. Alfred Salter grafted a shoot of it on a tuber of one of the lilliputian varieties, and the results have been a considerable diminution in height, the plant from the grafted tuber being only about 8 feet high, instead of more than 12 feet as at Chiswick, and an alteration of habit as well; for, while the ungrafted plant, of which there is also one in the house, makes a long bare stem, the leaves dropping off as the height increases, the plant from the grafted tuber is branched all the way up the stem. Although the flower buds are formed, these have not expanded, and additional heat will probably be necessary before they do so.

NOTES AND GLEANINGS.

All our readers will be gratified by knowing that Dr. J. D. Hooker, Director of the Kew Gardens, has had conferred upon him a Civil Companionship of the Order of the Bath.

—— The Country Meeting of The Royal Horticultural Society proposed to be held next year at Oxford, simultaneously with the Royal Agricultural Society's Meeting, is well supported by the Oxonians. We also understand that the Council of the Society have resolved on issuing a bronze medal to be called the "Rare Plant Medal," and to be awarded at any of the Society's Meetings for the first exhibition in this country of plants of great botanical interest.

—— In the Annual Report of the Royal Botanic Society, Regent's Park, recently issued, it is stated that during last season free orders of admission to the gardens for the purpose of study have been granted to two hundred students and artists, and 10,653 specimens of plants have been given to professors and lecturers at the principal hospitals and schools of art and medicine. The collection of living economic plants now contains specimens of all the spices and condiments in domestic use, most of the tropical esculent fruits, and many of those from which furniture and other woods are obtained, the principal gums and medicinal products, and the poison trees of Brazil and Madagascar. The lecturers at the schools of medicine attached to the various metropolitan hospitals are greatly indebted to the liberality of the Botanic Gardens in furnishing

them with a copious supply of fresh specimens, so difficult to obtain in London, and without which the lectures would lose so much of their instruction. We may suggest, however, whether some improvements might not be introduced into the so-called "herbaceous" department of the Gardens. A needless amount of space appears to be occupied by the arrangement of British plants in two different classifications, the Natural and the Linnæan, the latter being now entirely abandoned by all teachers of botany. Sufficient care also is not taken that the labels should correspond to the plants really growing beside them. It is confusing to the student to find immediately in front of a label a plant growing in full luxuriance belonging to an entirely different family, which has accidentally strayed there, and has not been weeded out. At Kew this department is kept in much better order. The Royal Botanic Society are now soliciting contributions in aid of the extensions of their magnificent winter garden.—(*Nature*, a new weekly journal of science, published by Macmillan & Co.).

WORK FOR THE WEEK.

KITCHEN GARDEN.

While the weather remains favourable continue to dig and trench the ground throughout this department, that the air may permeate the soil and keep it in a healthy condition for succeeding crops; it is also the best known means for the destruction of insects and their larvæ. Take every favourable opportunity for hoeing, forking, and ridge-trenching. It is not those who apply the greatest quantity of manure to the soil who are always enabled to produce the most abundant crops; it is the judicious application of it that will insure the greatest success. *Cabbage*, earth-up those planted for Coleworts in winter and early in spring, and look over the principal plantations frequently to see if slugs attack the plants; if such depredators are numerous lay a quantity of Cabbage leaves on the ground, and examine them daily. A pail of hot water or some lime may be taken round at the time the plants are examined, and the slugs shaken into it. Many thousands of these depredators may thus be destroyed at this time of year. *Cauliflowers*, lose no time in taking up those nearly fit for use; lay them in a frame so as not to touch each other, and keep them free from dead and rotten leaves. *Celery*, as soon as the soil becomes a little dry, earth-up that intended for winter use to a good height; it will be necessary to attend to this as early as an opportunity offers, as the frost may set in shortly and cause much injury, as the weather has prevented earthing-up lately. *Endive*, continue to blanch it by tying up or by wrapping the leaves together, and laying two flat tiles on each plant, so as to form a ridge, one overlapping the other. *Lettuce*, pay the same attention to the autumn plantations that was recommended for the Cabbages. Give air daily to the young plants in frames. Cabbage Lettuces in frames for winter use will not require much air. *Peas* and *Beans*, a few may be sown on a dry and warm border. Some gardeners cover them with cinder ashes, but this is a bad practice. I have several times seen them go off in the spring, and have been fully satisfied the ashes were the cause of their so doing. *Shallots* and *Garlic* should be planted as early as possible.

FRUIT GARDEN.

The weather being now favourable, the planting of all sorts of fruit trees should be proceeded with as rapidly as possible; it is of great importance to plant them as early in the month as possible. Prune and nail Pears, Plums, Cherries, Apples, Gooseberries, Currants, &c; unnail the young shoots of Peach and Nectarine trees; prune and tie espalier trees as soon as the leaves fall, and prepare ground for Gooseberry and Currant bushes and new Raspberry plantations.

FLOWER GARDEN.

The beds being now filled with spring-flowering plants, a regular cleaning-up of grass and gravel walks should take place, in order that the whole may have a neat appearance during the winter. If the walks are much soiled a surfacing of fresh gravel should be spread over the principal ones in connection with the flower garden, so as to preserve a fresh and neat appearance. The stock of cuttings and newly-potted plants will require care to prevent them from damping off; a good plan is to raise the sashes at the back and front, and to let them remain in that condition. As the weather may change suddenly, be prepared with plenty of covering material for use when wanted. If any Hyacinths or Tulips yet remain unplanted, planting should not be delayed. Crocuses and other hardy bulbs should also be planted. The removal and planting of shrubs and trees should now engage the attention of those who have it to do, and all alterations should be proceeded with as fast as the weather and other circumstances will permit. It is far less expensive to have any alterations that are to be made done quickly, than to have them done at what is called leisure time. All tender or half-hardy shrubs should have some protection prepared forthwith, and especially the tender kinds of Roses. Standards of the latter may have a bunch of dry moss, or a wisp of hay or straw, or some dried fern bound round the head, and the whole well fastened to a stake. Roses in beds, according to Mr. Rivers, and others, are best with a coating of moss. Any porous material which will not hold water long, and, of course, permit the air to circulate, will no doubt answer. The ground should be coated over 4 inches thick at least. From the fine growing weather during the past autumn, Pinks have become well established, and, generally speaking, are looking as fine and healthy as the most enthusiastic cultivator could desire. They will want but little protection during the winter, except from rabbits. Tulips may now be considered safe if planted, though the careful grower, and those who have valuable collections, will make preparations, by roofing the beds, and having mats sewed together, for covering in very severe frost. Polyanthuses are very liable to the attacks of mice during frosty weather, and they will speedily devour the hearts of the plants; their visits must be stopped by any method most convenient, and phosphoric poison is, perhaps, the safest and best method of destruction. Too little importance is, in general, attached to mulching and top-dressing, for whether we consider the utility of shutting-in, or rather arresting the departure of the remaining ground heat of the past summer, or adding nutritious principles to the soil for the ensuing year, the operation is one not to be neglected. It ought to be well considered that the soil has no heat to gain between this period and the end of February, but, on the contrary, a progressive loss must ensue for the next two months at least, until we resort to the practice of mulching. With all newly-planted trees or shrubs intended for choice specimens, or for immediate effect, this proceeding is indispensable, as connected with early autumn planting, whilst for Vine borders, whether the Vines are intended to be forced early, or are only to bear very late Grapes, the practice is equally necessary and important.

GREENHOUSE AND CONSERVATORY.

The stock of plants to bloom at Christmas, consisting partly of stove plants grown for the purpose, and partly of forced shrubs and bulbs, should now receive some attention, particularly the latter, which should be undergoing a slight amount of forcing to bloom them at that time. Choice Azaleas and Oranges may be assisted by a little additional heat, being careful, however, to apply it gradually. At the same time, if there is a forcing house, a portion of the stock of Roses, Lilacs, Syringas, Deutzias, and other hardy shrubs from the reserve pit, may be placed in the cool end, or in a light situation in an early vinery or Peach house: if they can be afforded a slight bottom heat all the better. A few of the most easily forced American plants, including some of the earliest-flowering Rhododendrons, should be added. Bring forward Hyacinths, and early Tulips, in gentle bottom heat. Double Roman Narcissuses, Crocuses, Neapolitan Violets, Mignonette, and Cyclamens, bloom early without much forcing, and answer best placed on shelves at the back of vineries, to catch every ray of light, and to insure them from damp.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

With two or three nights of sharp frost *protection* was one of the chief matters to be thought about. Dry litter is very good for the purpose; rough hay is better, it is so light and clean. We have some that, but for its being well supplied with bits of little sticks and hard dried leaves of Holly and Evergreen Oak, would be too good for the purpose. However, we should not like to exchange it except for its equivalent in value of the best straw. A little stack of this hay, collected from parts of the pleasure ground not seen much, and the grass allowed to grow long before being cut for the first time, makes us tolerably independent when a severe frost comes on us suddenly. A little shaken lightly over glass or over growing crops out of doors, greatly protects from the keenness of the frost, and when fire heat is used a little protection over glass renders hard firing and its evils unnecessary. Fern collected when light and dry is also an excellent protection, but it is not quite so handy, and

is sooner worn out than rough hay. Could we only keep the latter dry it would last a long time, but it soon loses most of its value when several times wetted. Though people are quite well aware of this, there seems to be a natural tendency to leave all such coverings in front of frames and pits, where, if heavy rains come, it will not only have its own share of wet, but also that which runs off the glass. It is easy to place it safely in little heaps, where it would be mostly free from both contingencies.

We had everything so well secured, that we were almost sorry when the mild change came. We had so much in hand, that if the frost continued we had resolved to let a good many things where there was no artificial heat remain covered up, but we could not do so when a mildness like that of April returned, making a difference in two days of little less than 30° Fahrenheit. The covering-up among vegetables had chiefly reference to Cauliflower, forward Broccoli, Celery, and blanched Endive and Lettuce. Some outside work has prevented us doing much in the kitchen garden, except wheeling some decayed hotbed manure into heaps, whence we can take it easily to places at hand as wanted. Radishes that received a little protection are still nice and crisp.

In the first piece in the Mushroom house, spawned between five and six weeks, there are some white points appearing, the harbingers of what we hope will be a good gathering. We mentioned that a fortnight or so after spawning and earthing-up, this bed seemed to be rather cold, and as it was on a broad shelf some barrowloads of hot droppings were placed in the then open space beneath, which had the desired effect of bringing heat into the bed, until we had reason to believe the spawn was working, which always makes heat as it progresses. We have just spawned and firmly beaten a third piece, and put in some dung for a small fourth piece, as we find it is best in every way, and especially as suiting our resources, to do only a little piece at a time, and to follow on continuously. We covered more thickly the bed in the open shed, still producing pretty freely, the last piece only a little in advance of the first piece in the Mushroom house. In this boisterous and frosty weather, however, we have drawn some Laurel branches through some old hurdles, rough-wattling them, and set them along the front of the shed, which keeps the air stiller inside than when open, and yet allows the air to sift through.

Celery in Beds.—The covering over these, even in severe frost, ought to be light, or it will break down the leafstalks and thus encourage them to rot. We notice what an observing correspondent says at page 378. We think his beds were quite deep enough and rich enough. We have some with four and five plants across, but we prefer three plants in general, and also dwarf kinds instead of very tall ones. We are using red Celery now, referred to lately as an Irish kind. A length of fully 18 inches of it is fit for table, and the centre row is as good as the outside ones. The beds of Incomparable are as equal as possible plant for plant, and last season we did not lose more than one or two plants from damping or otherwise. Of course, according to the vigour of the plant they demand room, generally from 12 to 15 inches from each other across the bed. For late Celery some trouble is needed in the earthing-up, such as using ashes round the plant, and a little litter at the last when it can be obtained. For late Celery, also, it is as well not to have a deep trench. We are so sure that the plan is a good one for all, and especially for small gardens, that we have no doubt our correspondent will be able to speak more highly of the bedding system next season.

Decaying, spotting, and bolting Celery is not confined to that grown in beds. We know of a case where more than half the plants fit for use have shown their flower stalks, and yet it is said they were supplied plentifully with water after being planted. We fear they had been starved and dried previously. We hear of another case where the plants, though looking healthy outside, are all, or nearly all, spotting, rusting, or rotting at the core. They were well supplied with manure water, and we could just be less sure than if we had seen the water applied that the water, instead of being carefully poured over the soil, was poured on the plants and soil rather indiscriminately. We can hardly venture on manure water being so applied in our absence, unless it be followed with clean water over the foliage.

Chiefly as a saving of labour in out-door watering, and much in-door watering likewise, we use the spout of the pot, and that does admirably, if the workman will stoop sufficiently to allow the spout nearly to reach the ground; but it is a very different affair when, standing nearly upright, as, if not noticed, he will be almost sure to do, and holding the watercan well up, he pours out a jet, as if he felt a pleasure in contemplating the miniature cascade. The roots and collars of plants, not to speak of the tender centres of such plants as Celery, are often thus greatly injured, because a man, when he knows the right way, will take the wrong. In our course through life, the errors we commit are in general less chargeable to ignorance than to the simple fact that though we knew what was right, we did not do it.

FRUIT GARDEN.

We have not finished washing and tying the trees on the back of our Peach house, as the only wet day we had we appropriated to potting and mending metal hand-lights. Cutting glass for so many corner pieces at the top is a tedious affair. Were we purchasing for ourselves we would never trouble with such glasses, as they are expensive at first, and seem to offer a temptation to every iron-pointed boot to try conclusions with them. Small, rough, wooden boxes, 2 feet square, with a glazed top, would be far preferable if made like a little frame with the top moveable, and so that either side would do uppermost.

The Peach house would have been finished but for the fact that when done we could not store more than a row of boxes in it next the back wall, every other part being filled with bedding plants, and there they will remain until the Peach trees are started, and the most of the Grapes in the late house are cut.

Strawberry Plants in Pots.—We mentioned lately our having turned these on their sides to keep the soil from being saturated. This would have rendered them more liable still to injury from the frosts of the middle of the week, but a sprinkling of litter all over kept them quite safe. Very little protection thus suffices for plants placed on the ground. We have found Pelargoniums pulled out of the beds, and laid on the ground in an open place, when thus protected, perfectly fresh and sound a month after their neighbours were a mass of decay. We turned out some of these Strawberry plants on the 13th inst., the covering being removed on the previous day, and we never saw pots better filled with fine, large, light-coloured roots. An earth pit that had late Kidney Beans, being now at liberty, and having some dry tree leaves, we spread a little dry ashes over the surface of the earth pit, and filled it with Strawberry pots, resting their bases on the ashes as a security against worms, and packed them in the tree leaves as closely to each other as they would go, allowing a few leaves to rest on the surface of the pot, and leaving all the rather green leaves belonging to the plants themselves; for though the pots have long been crammed with roots, and no watering has been given for a long time, the leaves are greener than we like to see them now. These we shall cover with old sashes condemned twenty years ago, but, with a little patching on a wet day, still very useful for such rough work, the sashes merely resting on the back and front of the earth pit. Some of the sides of these sashes that for more than twenty years have not had a touch of paint, are as sound and firm as the day they were cut from a deal log or batten. Of course, after such rough treatment, covered over often with damp litter, no rafters to stay them, &c., some are going and rotting.

We could not wish for a safer elysium of rest for our Strawberry plants in pots, until we wished to excite them into fresh growth, and a covering of strained calico would be second best, both good as throwing off heavy rains, the few leaves on the surface of the soil, and the foliage of the plants, affording good protection from frost, if the vermin would only let them alone. We shall be obliged to look at them every day, for mice and rats, not to speak of larger four-footed enemies, would soon make wrecks of the crowns. To keep all these destroyers at bay, we have placed a band of tar round the pit, and set traps and baits at no great distance.

We shall most likely have to store the rest in a similar place, or in the orchard house. We greatly prefer the latter, as the mice, &c., seldom trouble them there, and the first attack is easily seen, but the room there is nearly filled up already. Some years ago, in a very severe frost, we had a similar earth pit to that referred to, protected with a little litter for the best part of a week, and on uncovering we found nearly one-third of our plants, and the best of them, too, useless, from the hearts being eaten out of them.

We hope to be excused dwelling on these simple matters, as we believe more than half the failures as respects Strawberries in pots are owing to carelessness as to the condition of the plants in winter. If plunged and waterlogged out of doors, the

roots become dropsical, and the flower-bud is apt to decay. If the pots stand unprotected, the roots are apt to be ruptured or killed, and the buds injured, by frost. If the pots are built on their sides in conical stacks, they can easily be protected from frost and wet, and yet have access to light and air; but a neglect in one very cold night may injure them severely, and if the winter is bracing and dry, the soil is apt to become too dry, and buds and roots would then suffer. Where glass frames or calico can be had to throw off the wet, they will be best. Even in cold orchard houses and frames, with plenty of air and no rain, care must be taken that the soil do not become dry, otherwise the buds and roots will suffer. Just now it is well to have the plants dry rather than wet, to arrest growth, and concentrate the powers of fruiting; but until we commence forcing, the plants should not suffer from dryness.

Most of our inexperienced readers will defer forcing for a month or two. In the beginning of the week we shall fill a shelf in a pit with plants that showed flower trusses prematurely in the open air, and which we set in a cool house where they have had no frost. Soon we shall fill a frame with Black Prince and Keens' Seedling, giving them just a little heat to start them gently. There will be a gentle heat from leaves, &c., and we shall set the pots on the surface, or each on a tile, board, or slate. The Strawberry dislikes much bottom heat, and, therefore, beginners would do well never to plunge a pot in a bed when starting it. It will be almost sure to set the leaves growing very freely, whilst the flower truss will be left behind. However started, the forcing in winter, and especially early in spring, must be very gradual, commencing with from 40° to 45°, and mounting up very gradually in a month to 50° and 55°, and then slowly to 60°. Thus Strawberry plants placed in such a house as a Peach house before it is started succeed remarkably well, as the changes are so gradual, and better than in a pit for early forcing, as there is more room for air and sunshine. A high temperature at once for early Strawberries is the best of all modes of insuring failure.

Though the plants should not be dry, the soil should be somewhat dry rather than wet, until the truss shows freely. They should have no water in a pan until the fruit is set and swelling, and but little then. It is better to water oftener. In watering before the truss shows, avoid watering overhead. In dull weather this is apt to damp off the bud.

Many who see how hardy their Strawberry plants are growing in the open garden, may consider all this care with pots to fruit early quite unnecessary, but they should recollect that the plant in a pot is placed in artificial circumstances, and must be treated accordingly. A hardy plant that no rains or frosts would injure when growing in the natural soil, may be very easily killed, or much injured when growing in a pot standing freely exposed on the surface of the ground, or waterlogged when plunged. When pots strong though porous, are often in such cases cracked and split, how will the tender roots escape? Last winter some enthusiastic amateurs had their Strawberry pots, and fine plants, too, standing exposed on the side of a walk after New Year's-day. We did not wonder that the fine plants gave anything but satisfaction at fruiting time.

ORNAMENTAL DEPARTMENT.

Raking, sweeping, and rolling, have been the routine work, and we placed rough half-rotten manure on lines of Gladiolus, as we could not just now find a place to our mind to store the bulbs. We have had a pit emptied of the rotten manure, and supplied with fresh, preparatory to the gentle forcing of shrubs and a few tender plants. Now is a good time for setting apart the most rotten of such manure to come in as leaf mould, when well aired and sweetened. The charred rubbish lately referred to is also valuable for this purpose, it sweetens and lightens every soil.

Many of our bedding and other plants were in rather dark and damp places, and clearing out some places has enabled us to move them into other frames, where they would receive all the light in this dull season, the frames being raised higher at the back the better to catch the rays of light. Some of the plants had a few warm leaves placed beneath, and then dry ashes to set them on. We thus filled a frame with pots of Mignonette beginning to show bloom, and if there be any signs of damping the pots will be moved to drier heat. Roses and Deutzias will be placed in a gentle heat.

We are glad we put some *Violets* under glass, as the late frost has hurt and taken the scent from the Russian Violet in the open air. Could we manage to spare a two-light box we would next week put a foot or so of hot dung beneath it, 3 inches of rotten dung, and then cram it with Russian Violets taken up with balls, and packed with rich loam, and then come frost or not we should be sure of sweet-scented Violets. Would some experienced grower tell us of the properties of the new sorts advertised—the reds, pinks, &c ?

We potted off some annuals for early blooming, as Collinsias. Gave more room to Cinerarias and Primulas, and took forward plants of both to the conservatory. The climbers there we have had greatly to reduce to admit light for the winter. A little shade in summer is all very well. On the pruning of climbers we shall have something to say. When established, according to the treatment given, they will do well spurred-in like a Currant, or flowered on the young wood like a Raspberry.

In all houses where merely a temperate heat is maintained ranging from 38° to 45° at night, great care should be taken not to spill water about, as that is apt to rise by evaporation, be condensed against the glass, and then in cold weather when much air cannot be given, fall like a shower bath over the plants, and most likely in the very places where it is not wanted.

Heating must be attended to with great care in this very changeable weather. It is always safest rather to underdo than overdo, and is sure to be more economical too. The fall of the temperature in a house for a few degrees is safer and better for the plants than roasting them with a high dry heat. It is much more pleasant to put an extra shovelful on the fire than to pull a great fire out of a furnace. We lately discussed fully the whole subject of furnace management. It is too often a matter of haphazard and waste. Three simple things are essential to be attended to by him who would manage the heating of plant houses well. First, he must learn to read the signs of the weather in the sky, at least for short periods, and then he will be less likely to overheat his houses at night, and still more unlikely to allow a strong sun heat and a strong artificial heat to meet together during the day, and more especially if under these circumstances there should be a dry, biting frosty air. Secondly, he must examine the outside thermometer before going into his houses, and thence make his comparisons. Thirdly, he will not only look at the thermometer in the house, if not so practised as to know within a degree or two when he enters, but he will likewise feel his pipes or flues, &c., and all this he will do before going to the furnace. We put the question in all earnestness, Is it so common to find these simple precautions attended to? Is it, indeed, so common for youths even to condescend to place their hand on a pipe or a flue? Is it not quite as common to see a man the first thing in a morning bustle into a stokehole and set a fire going, without previously troubling himself about any one of these matters? We shall say nothing now of keeping furnaces clear, regulating dampers, keeping furnaces and ashpit doors shut, and thus, in the case of boilers, doing something to keep the heat about the boiler, instead of sending more than half of it up the chimney into the general atmosphere.—R. F.

TRADE CATALOGUES RECEIVED.

Kelway & Son, Langport, Somerset.—*Catalogue of Gladioli.*

William Chater, Saffron Walden.—*Catalogue of Hollyhocks and Roses.*

COVENT GARDEN MARKET.—November 17.

Prices remain nearly stationary, although our market stands are much better cleared than they were. Apples and Pears continue in good request. Pine Apples and Grapes are sufficient for the demand. Foreign imports are light. The Potato trade is more active.

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	dez.	3	0	to 6	0	Leeks	bunch	0	4	to 0	0
Asparagus	100	0	0	0	0	Lettuce	score	1	0	2	0
Beans, Runner	½ sieve	3	0	4	0	Mushrooms	pottle	1	0	2	6
Bread	bushel	0	0	0	0	Mustd.& Cress, punnet		0	2	0	0
Beet, Red	doz.	2	0	3	0	Onions	bushel	3	0	4	0
Broccoli	bundle	1	0	0	0	pickling	quart	0	0	0	0
Brus. Sprouts	½ sieve	3	0	0	0	Parsley	sieve	3	0	0	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	9	1	0
Capsicums	100	2	0	2	6	Peas	quart	0	0	0	0
Carrots	bunch	0	4	0	8	Potatoes	bushel	2	0	4	0
Cauliflower	doz.	3	0	6	0	Kidney	ditto	3	6	4	0
Celery	bundle	1	6	2	0	Radishes	doz.bunches	1	0	0	0
Coleworts	doz. bchs.	2	0	4	0	Rhubarb	bundle	0	0	0	6
Cucumbers	each	0	6	1	0	Savoys	doz.	1	6	2	0
pickling	doz.	0	0	0	0	Sea-kale	basket	4	0	5	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	0	0	6
Fennel	bunch	0	3	0	0	Spinach	bushel	2	0	3	6
Garlic	lb.	0	8	0	0	Tomatoes	doz.	2	0	3	3
Herbs	bunch	0	3	0	0	Turnips	bunch	0	4	0	8
Horseradish	bundle	3	0	5	0	Veget. Marrows	dez.	1	0	2	6

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples ..... ½ sieve	2	0	to	3	0	Mulberries .... quart	0	0	to	0	0
Apricots ..... doz.	0	0		0	0	Nectarines ..... doz.	0	0		0	0
Cherries..... lb.	0	0		0	0	Oranges 100	8	0		14	0
Chestnuts.... bushel	8	0		14	0	Peaches ..... doz.	0	0		0	0
Currants .... ½ sieve	0	0		0	0	Pears, kitchen .. doz.	2	0		3	0
Black ..... do.	0	0		0	0	dessert .... doz.	3	0		5	0
Figs ..... doz.	0	0		0	0	Pine Apples ..... lb.	3	0		6	0
Filberts ..... lb.	0	6		1	0	Plums ..... ½ sieve	3	6		5	0
Cobs ..... lb.	0	6		0	9	Quinces ..... doz.	2	0		3	0
Gooseberries .. quart	0	0		0	0	Raspberries ..... lb.	0	0		0	0
Grapes, Hothouse . lb.	2	0		5	0	Strawberries .... lb.	0	0		0	0
Lemons 100	8	0		12	0	Walnuts .....bushel	10	0		16	0
Melons ..... each	2	0		3	0	do. 100	1	0		2	0

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*A Monthly Reader*).—Rivers's "Rose Amateur's Guide," free by post for 4*s.*; "Fruit-Gardening for the Many," 4*d.*; "Poultry Book," 6*d.* You can have it and the latter two from our office, if you send with your address the amount in stamps, with two stamps additional. There are no articles such as you refer to.

Vines in Orchard House (*A. Q.*).—We are glad to hear that you have been so successful in your cultivation of Grapes without the aid of fire heat. It serves to show so well what can be done by taking good care of that which we have—sun heat. Your list already includes the leading varieties suitable for your purpose, but as you seem fond of variety, we would recommend White Frontignan, a highly flavoured sort. Foster's White Seedling is a very good sort, but not so highly flavoured as the other. Ingram's Prolific is not at all times a satisfactory grower; therefore, we should not recommend it, excepting as an experiment. Royal Ascot is a most excellent sort, free-bearing, and of fine flavour, and we should think, although we have not proved it, suitable for your cool orchard-house. Try it.

Edible Fungus (*F. A., East Retford*).—Your fungus is Agaricus personatus, a well-known edible species, distinguished from its allies by the pale purple tint round the top of the stem.

Chenopodium (*L. W.*).—Being a native of Brazil, it would require greenhouse culture, and would, therefore, be too expensive to cultivate as chicken food. As you do not know the species, we cannot state the treatment the plant would require.

British Wild Flowers (*B. J. C.*).—The work will be continued until all our native flowering plants are portraited. The plates and descriptions may be bound in their numerical order, because classified indices are intended to be published when the work is completed.

Heating by Gas (*F. G., Anerley*).—You can readily exclude frost from your small greenhouse by means of gas. If you enclose four postage stamps with your address, and order No. 341 of this Journal, you will there see drawings and descriptions of various modes of gas-heating, and from them select that which you prefer. (*R. H.*).—A gas-heated stove will answer for heating a greenhouse if there is a chimney to take away the fumes. A saucer filled with water should be kept on the top of the stove. The cause of the Pelargonium leaves becoming yellow and drooping, is their being recently put into boxes.

Dwarf Peas (*Idem*).—The ground ought now to be trenched or deeply dug, and a good dressing of manure given, though it may be well in case the manure is rotten, not to apply it until February or March, and then fork it well into the ground, mixing it with the soil. For early sowing, Tom Thumb, and Little Gem (Maclean), both for February or March sowing, when Bishop's Long-podded may be sown at fortnightly or more distant intervals up to July. They are dwarf sorts and will do without sticks.

Transplanting a Cedar of Lebanon (*A. G. F. C.*).—It may be safely removed now in mild weather, care being taken to secure a good ball. If, however, the weather be frosty, planting ought to be deferred until March. The plant should be planted so that the uppermost roots will not be covered with more than 3 inches of soil, and if the ground is wet it would be well to plant on the surface, or on a mound. Secure the tree against wind, and give water in dry weather. Rich loam, light rather than heavy, is the most suitable soil. No manure is required. The top spit of a pasture taken off with the turf, and chopped up small, will answer perfectly well.

Various (*Patelin*).—The Cockchafer grub is the "Ver blanc" of the French, and we fear it would not avail if we told them they applied a wrong name. Fallen fruit will not keep under any circumstances, the extra damage to it from a brick edging must be very trifling, and the trouble of keeping Box in order, and the harbour it affords for vermin, are far more serious.

Evergreens for Stable Yard Walls (*Co. Antrim*).—There are no evergreen climbers except Ivy, which would suit the position you name. We have not noticed Ivy injure walls, and that is what we advise, especially as you say Escallonia macrantha and Berberis Darwinii are often injured by frost. You do not name the aspect, but we conclude that it is not south or west, as the Escallonia and Berberis succeed there in much colder localities. Cotoneaster buxifolia is a good handsome evergreen, but C. Simmondsii is more ornamental on account of its fruit. C. microphylla is also close-growing and evergreen. All three would suit you, and so would Crataegus pyracantha and Ligustrum japonicum.

Price of Bulbs and Seeds (*Clericus*).—There are none sold at such prices as you name. The usual prices seem high, but when the limited demand, loss from stock unsold, &c., are considered, the prices are not very excessive. There is so much opposition, that lower prices would be charged if they would enable a seedsman to live.

Croton pictum Treatment (*Eve*).—It requires a stove, a light moderately airy position, and plenty of room. In shade it becomes badly coloured. At this season give no more water than enough to keep the leaves fresh, and in March repot the plant, employing a compost of two parts fibrous loam, and one part peat, with a fourth part of leaf soil and old cow dung, adding sand liberally. Give good drainage, and remove as much of the old soil as can be done without injury to the roots. Water the plants carefully until the roots are working well in the fresh soil, then water it freely, and by maintaining a moist atmosphere, and brisk heat of from 65° to 70° at night, and 75° by day, with a rise on fine days to 85° or 90°, the plant will grow well. Have the foliage dry by the time the sun shines powerfully on the house. A gentle syringing in the evening will do good. A winter temperature of 60° at night, and 65° by day, with a rise of from 10° to 15° from sun heat should be maintained. Keep the soil moist, but not wet in winter.

Camellia Flower-buds Falling (*Anxiety*).—In the majority of cases the buds fall from a defective root action, the roots become inert by being grown in a close, imperfectly drained soil. The roots are kept more healthy in an open free soil than in one which becomes in a short time a close mass. The top of a pasture where the soil is a sandy loam, taken off an inch thick, pulled to pieces by the hand, is the best soil we know. Pot firmly. Sudden changes of temperature and irregularity in watering will also cause the buds to fall; too much water destroys the roots, and too little deprives the foliage of the needful support, and though the buds may not immediately fall, they do so when they ought to be swelling. Another cause is maintaining such an amount of heat and moisture as to cause a second growth, and the plants cast many, if not all their buds. After the buds are set the plants cannot be kept too cool and well aired. They are ruined by being kept in too much heat, and in an imperfectly ventilated atmosphere. Camellias are all but hardy, not needing half the amount of heat to which they are often subjected. Camellias are successfully propagated in this country.

Pine Apple Leaves Spotted (*A. G.*).—The leaf sent is spotted owing to moisture having dripped on it, and the evil may date from the time you name, for the spot is very small at first, and when it begins spreads rapidly. The spot is also a result of cold arising from the roots being in a wet soil, and inactive. It may also be a consequence of recent potting. Preserve a drier atmosphere, and keep the plants near the glass, with plenty of room sideways. We should think the plants weak if the leaf sent is a specimen.

Various (*A Lady Subscriber*).—The shoot sent we should say was of the Damson, but it is difficult to distinguish between a young shoot of Sloe and Damson. Mrs. Pince's Muscat Grape Vine requires more heat than the Golden Champion, the latter succeeding in the same temperature as Black Hamburghs, and being equally good for forcing or cool vineries. Mrs. Pince is a late Grape, and like all Muscats requires a high heat. Both are good Grapes. February would be sufficiently early to start seedling Vines for fruiting, though you may place them in a vinery in December; the house not be forced until January or February. Cliveden Pansy, and Viola cornuta, ought, for spring blooming, to have been divided at the end of September or beginning of October, but this may now be done in mild weather, the divisions being large and well-rooted.

Evergreen Trees for Shelter (*W. J.*).—The situation being exposed none of those you name would succeed. Nothing would serve you so well as the Austrian Pine. Of those you mention, the Berberry, Arbor-Vitæ, and Juniper would answer best, but we doubt their being sufficiently hardy. We should have Austrian Pines at back, with Hollies in front.

Agave americana variegata Treatment (*An Old Subscriber*).—We should consider the fault to be in the soil, it being too rich. Turfy loam, sandy rather than heavy, with a fourth part each of charcoal or crocks about the size of hazel nuts, and old cow dung, will grow it well, good drainage being provided. Little or no water will be required in winter, and in summer it will suffice if a good supply be given when the soil becomes dry. We should attribute the dying of the leaves to the points being injured, though it may be occasioned by moisture dripping on them. Place the plants out of doors in June, and house them before frost. Do not pot too often, but allow the pot to fill with roots.

Passion-Flower for a Greenhouse (*Idem*).—Passiflora cærulea racemosa and Comte Nesselrode are both good. Tacsonia Van-Volxemi is the most ornamental of Passion-Flower-like plants for a greenhouse.

Herbaceous Plants (*O. F. W. R.*).—Though we give you a list of plants that will flower between August and June, we do not say they will succeed in a border where there are many trees and shrubs, and the soil in winter very wet and cold. It is a question what will grow in such a position:—Adonis vernalis, Ajuga alpina, Alyssum saxatile, Anemone apennina, A. japonica, Arabis albida, Aubrietia grandiflora, Bellis perennis aucubæfolia, Cerastium tomentosum, Cheiranthus alpinus, C. Marshalli, Convallaria majalis and its varieties; Cyclamen neapolitanum, C. repandum, C. coum, C. europæum; Crocus sativus, C. nudiflorus; Dielytra spectabilis, Dodecatheon meadia, Draba aizoides, Eranthis hyemalis, Galanthus plicatus, G. nivalis and var. plenus; Gentiana acaulis, G. verna; Helleborus niger, Hepatica angulosa, H. triloba, vars. pink, blue, and white; Iberis Tenoreana, Iris reticulata, Leucojum vernum, Lythrum roseum superbum, Muscari botryoides, Myosotis montana, Narcissus Ajax, N. juncifolius, Orobus vernus, Paeonia in variety, Phlox verna, Primula acaulis, vars. double lilac, dark crimson, sulphur, and white, P. Auricula; Pulmonaria angustifolia, Scilla sibirica, Silene Schafta, Sternbergia lutea, Trollius europæus and its variety albus, T. asiaticus, T. napellifolius; Zephyranthes candida.

Roses for a Town Garden (*Idem*).—None do so well as the Hybrid perpetuals, and we have found those named succeed tolerably well:—

Alexandrine Bachmeteff, Anna Alexieff, Beauty of Waltham, Caroline de Sansal, Comte de Nanteuil, Comtesse de Chabrillant, Dr. Rushpler, Duchess of Norfolk, Duchess of Sutherland, Eugène Appert, François Premier, General Washington, Jacques Lafitte, Jean Bart, Jules Margottin, Le Lion des Combats, Lord Raglan, Louise Odier, Madame Boll, Madame Eugénie Verdier, Madame Julie Daran, Madame Frudeaux, Madame Vidot, Maréchal Vaillant, Marie Dauvesse, Marquis of Ailsa, Monsieur de Montigny, Pius IX., Senateur Vaisse, Triomphe d'Amiens, Victor Verdier, William Jesse, Reine des Violettes, and Princesse Mathilde.

Roses for a West Wall (*Wm. M. M.*).—You will not have room for more than three plants, though if your wall is a high one, you may plant them 3 instead of 6 feet apart. Having no sun until 2 P.M., Acidalie and Sir Joseph Paxton, both Bourbon, would suit, and Gloire de Dijon for the best position.

Dung for a Hotbed (*Idem*).—Horse droppings from a stable where sawdust is used would make good hotbeds, but heat violently, and ought to be mixed with litter or leaves in equal proportions. The heat is then more durable and less violent.

Gathering Late Pears (*Anxious*).—Late Pears, however hard and firm, should be gathered before they are frosted. If in pots under glass, they may remain longer on the trees. When we have allowed late Pears to have from 4° to 7° of frost, although they did not appear to suffer, we always thought they kept the worse, and were deficient in flavour.

Variegated Mangold Wurtzel (*Dublin*).—From your description and what we see of the dried leaf of Mangold, the plant must have been very striking. Nothing can be asserted as to the seed from the plant producing others equally variegated without trying it. The root will be quite safe anywhere in a dormant state all the winter, provided it is not frosted or eaten by vermin. Plant out in spring, and when the shoots approach flowering, cover with gauze, so as to let plenty of light and air in, and keep insects, &c., out.

Protecting Fruit Trees (*R. H. A.*).—Your plan will do. We presume you mean to have a wall-plate on the top of your 5-feet upright pieces. We would in the length of 100 feet have eight, the uprights stronger—viz., 4 by 3 inches. The front glass would do of 16-oz., as hail seldom breaks the front. We presume you will have ventilation at the top. Your house, with the exception of not being so high in front, will resemble the cold houses at Trentham. If we wanted to make the most of such a space of glass, we would have the house wider, and lower in front.

Heating a Vinery (*C., Subscriber*).—The best mode of heating your house would be by hot water. A cheaper mode would be by a small flue all the length of the house, or if you intended forcing much, having two furnaces in the centre, and a flue right and left. The flue would cost least at first, and much less for firing. Hot water, however, would be the best. For such a house you would require two, three, or four 4-inch pipes according to the heat wanted.

Pit Painted Inside with Gas Tar (*A. M. A.*).—So long as the smell remains it will not be possible to keep any growing plants in the pit. There is no remedy but scraping off every bit of the tar, and that would be easier done if you covered it with a thick wash of lime. This repeated once or twice may enable you to take the most of it off. If you do not do something of this kind, the pit will be of no use until the tar has become thoroughly hardened by the sun of a following summer. Not long ago a number of houses had to be emptied because the hot-water pipes were painted with tar, and beautifully the pipes looked. We advised a gentle heat in the pipes, oiling them well to soften the tar, and scraping it off—a very tedious business. Will any of our readers supply our correspondent and ourselves with a simple mode of neutralising or preventing the fumes from tar?

Cocoa-nut Fibre Refuse in Stoves (*L.*).—We do not think that cocoa-nut refuse is so apt to harbour woodlice, worms, &c., as tan or decaying leaves. It is a very cleanly material in which to plunge plants in a pit, and it retains heat well when given, but it is a bad conductor, especially when at all dry, and not good for making heat, or letting heat pass. Thus, suppose there were some source of bottom heat, and you had 1 foot or 18 inches of cocoa-nut fibre over it, and the pots set on it and partly plunged in it, they would have little bottom heat; but if the pots were placed on a mild heating surface, and packed round with the cocoa-nut fibre, the heat would be retained about them.

Pinus Austriaca (*O. H.*).—This will withstand wind well—so well, that it is one of the best Conifers for planting near the seashore. For high exposed places it would do well on the south side of a mountain, but unless the soil were of fair depth on a hill side, we would not plant it in preference to the Larch or the common Scotch Fir. The heartwood of Pinus austriaca is red, firm, resinous, and enduring.

Iron Stove (*Idem*).—The main parts of your plate-iron stove are right. If the stove become hot enough we have no fault with the sand at the sides. The great object should be to concentrate the heat in the stove, and not to send it into the smoke-pipe. Your smoke-pipe is opposite the furnace door; in fact, rather below it. It would have been better if the smoke-opening had been as near the top as possible, and then the heat would have struck against the top and sides of the stove before finding such an easy exit. As you have too much heat in the pipe, and the fuel burns too rapidly, you would lessen draught and economise fuel by having a strong flat piece of iron 5 inches square, kept in position 1½ inch in front of your smoke pipe. Two iron spikes could go into the smoke-pipe to keep it in its place. Meantime try what partly blocking-up your smoke-pipe will do, by reducing it one-half with a piece of brick. Your great error, however, is in having furnace and ash-pit doors not fitting closely. When such a stove as yours is heated, and you merely wish a slow combustion to keep up a mild heat a long time, something like one-eighth-of-an-inch opening in width, by 1 inch in length, in the ash-pit door, will be sufficient. On lighting and until the fire gets hold, air must be given, and the smoke-pipe will become hot; but when you shut up and reduce the air to very little, the pipe will soon cool 4 or 5 feet from the stove, whilst the stove will remain warm. With so little air the stove will keep warm after the fire has burned out. Before making the alterations in your doors, just try, after the fire is fairly burning, what a little air for draught will do, by daubing-up all the openings with stiff clay or dough, except such a small opening as referred to above, in the ashpit-door.

Peach Tree for a Cold House—Plum Trees Unfruitful (*A New Subscriber*).—We would recommend the Bellegarde Peach for your cold house, and Elruge or Violette Hâtive Nectarine for the back wall. The Plum trees to which you refer, planted eight or nine years, that bloom profusely but do not fruit, are a more intricate affair. As you have found the roots of one tree 1½ foot deep, that might be the reason, if the wood is strong and imperfectly ripened. If so, lifting and replanting near the surface would be the remedy; but if the wood is short-jointed and well ripened, and the blooms when examined seem perfect, we should conclude that the trees were suffering from poverty or want of moisture, and therefore we would make holes and water, and then surface-mulch. From what we have said you will be able to judge. If the trees do not grow strong and the roots are as deep as you say, we would, in preference to raising and replanting, remove a part of the surface soil and mulch.

Figs Bursting (*Anxious*).—When Figs are to be used at home we never mind, for we rather like to see them cracking, and their rich amber juice beading out. When the bursting is more than this, it is generally the result of drenching with water after comparative dryness.

Vines in Ground Vinery (*Amateur*).—All things considered, the Vines in ground vineries being so strong and healthy, we would let them alone for another year, as most likely the shanking was owing to want of water last summer. We would surface-mulch and keep the surface moist after growth had commenced.

Time for Pruning Vines (*Idem*).—Vines may be pruned as soon as the wood is ripe and the leaves begin to fall and change colour. A Vine several years old, like yours, should not be cut close into the stem, but to a spur, leaving one or two buds at the base of this season's growth. As respects a shoot of this season's growth, it should be shortened, and all laterals cut off, leaving only the buds—that is, supposing the fruit is to be produced on that young shoot next summer.

Sowing Grape Seeds (*Idem*).—To raise plants from Grape seed, the seed should be separated from the pulp when the fruit is perfectly ripe, washed, dried, and kept in a cool, dry, dark place until March, when it should be sown, covered thinly with soil, and the pot placed in a mild hotbed, the seedlings being pricked-off into small pots as they appear. Unless the flowers of the Grape were cross-fertilised, there would be little use in raising from seed.

Ripening Tomatoes Artificially (*Idem*).—Tomatoes, full-sized but green, will ripen in the kitchen screen, or any warm place. Cold and wet will cause them to blotch and rust.

Pruning Vines (*W. W.*).—The only object of leaving two buds instead of one on a spur of a Vine in a ground vinery is that thus you have a double chance of obtaining a fruitful shoot from the same joint. Leaving both shoots if they both showed fruit, would depend on how the other joints showed fruit. In general it would be advisable to leave only the shoot with the best show, and rub off the other one, choosing, if possible, the shoot nearest the main stem. This spurring system is the easiest, but some succeed best with rod-training—that is, when the Vine is established, shortening every bearing side shoot to one joint beyond the bunch, training a young shoot from the base to fruit next year, and cutting away the old one, just as you do with Raspberries.

Pears not Fruiting (*Idem*).—We think the Pears in the pots which have not set must either have been too wet or too dry, when Peaches and Plums set so well. Pears require more direct air when in bloom than Peaches, but they do well with similar treatment to Plums.

Grapes Red and Acid (*Half Pay*).—We suspect this is chiefly owing to the fact that the Vines have borne such a quantity of Grapes. Most likely if you had left only a half or two-thirds, the Grapes would have been all right. If, as a neighbouring gardener says, there is much red spider on the Vine, and very likely he is right, then, if much infested, that would to a great extent account for the bad condition of the fruit. We are more inclined to think he is right, as the Peach leaf sent, though we found no insect on it, showed that it had been well punctured by the little red spider. If the Vine leaves have the same greyish dotted appearance as the Peach leaf, there would be no doubt about it. If the leaves of the Vines are at all green, and the wood not well ripened, you must not think of burning sulphur in the house as advised. That can only be safely done with deciduous plants when in a state of rest and the wood thoroughly ripened, and therefore it requires judgment and experience. Besides, as the Grapes are now thin, the remaining bunches may be better, and it would be a pity to lose them. The red spider when full grown resembles in size the smallest grain of red sand, and can be easily seen by young eyes on the under side of the leaf. Wherever you see that grey-dotted spotted appearance as on the Peach leaf, you may be sure that the little enemy is present. If, in addition, you see pieces of foliage having a shining oiled-paper-like appearance, you may be sure that the jumping thrips is with you—a small insect, not more robust, but much larger than the red spider, and as difficult to eradicate. We may here say, in passing, that the midrib of your Peach leaf showed marks where scale had made a home for itself; one leaf of the Vine would have made us more certain. From what you state, the only way you can use sulphur now is as follows:—Shut the house or houses up by three o'clock. Then take some large pots, say 12 inches in diameter, fill them about half full with quicklime, pour on enough of water to slacken and saturate it thoroughly, and then sprinkle over each pot about 1 oz. of sulphur. For a house 30 feet long and 10 feet wide we would use two pots. In the morning, syringe freely where there is no fruit. This, with less sulphur, is a good preventive in summer. This is very different from burning sulphur. When the lime is very strong use less sulphur. At this advanced season, however, your main remedy for next season would be, as soon as the leaves fall, or are removed, to wash everything in the house, as well as the trees, with soft-soap water at fully 150° to 160°, and then paint the trees with weak Gishurst, or a paint of clay and sulphur, using the syringe pretty freely next season after the fruit is set, or weak sulphur fumes from hot-water plates, or other surfaces not hotter than 160°. See "Doings of the Last Week" lately.

Planting Vines—Border—Vines in Pots (*T. J. M.*).—As you are only now making your border, we would allow it to settle until March before planting, so that there will be no risk of straining or cracking the roots. The brick rubble at the bottom of the border is all right enough, but that will not be sufficient unless you have a drain besides, if there is the least chance of stagnant water. The reversing of the green sods over the bricks is all right, but the garden refuse we should consider the worst material you could use, and the most likely to produce mildew at the roots. A mixture of soil, half-inch bones, and oyster shells, is quite right; say five or six bushels of the former, and ten of the latter, for your size of border, but one-third of dung would be out of place; one-twelfth

or one-fifteenth of sweet rotten material would be nearer the mark. The large Vines in pots that showed well but refused to set, failed most likely from want of drainage, or want of enough of moisture at the roots, and enough of heat and air at the time. Such four-year-old Vines are not much better than younger ones for planting out. In planting, the roots should be gently disentangled and spread out regularly on the border, packed nicely, watered with warm water, and covered with from 6 to 8 inches of nice soil; then, if you place 6 inches of warm dung on the surface, and cover with the glass as you intend doing, the roots will begin to work at once before the buds begin to swell. The Vine two years old in a pot, and so strong and well ripened, will fruit best in the pot. Pick out an inch or two of the surface soil, replace it with rich compost, water gradually until the soil is well moistened before the buds break, then set your pot near the flue. As it is 10 feet long, we would cut away 2 or 3 feet, and the remainder we would twist round three or four sticks. We have often done so with Vines as long as yours, if well ripened for that length—10 feet. The twisting round in open cylinder shape caused the buds to break more regularly. Then you could reserve the best and strongest shoots, and rub off those not wanted. If you take a heavy crop the first season, the plant will do little good afterwards.

Mildewed Vines (*North Norfolk*).—Flowers of sulphur scattered early over leaf and berry is the most effectual remedy, and if sulphur is painted on a heating medium that is not hotter than from 160° to 170°, it would greatly help to banish the pest. If your house is now empty—that is, if there is nothing growing in it, and the wood of the Vines is brown and firm, you might burn a little sulphur in the house; but unless sure of the hardness of the wood, do not attempt it, as it will kill everything green, or at all unripe. Your chief remedy must be a thorough washing of every part of the house, Vines, &c., with warm soft-soap water, whitewashing, or rather limewashing the walls, using a good portion of sulphur with the lime, and then painting the Vines rather thickly over with a paint made of clay, sulphur, and soft-soap water. The sooner this is done the better, as the longer the paint remains on the shoots and stems before the Vines break, the more effectual it will be. Next season, wherever the sun will beat on the walls paint them with sulphur, and use sulphur on the heating medium if not above 160°.

Pruning Pleroma elegans (*K. M. B.*).—The plant, being old and leggy, will not do well if cut down to within 6 or 7 inches of the root, as it may not shoot freely from the old hard wood. You may, however, cut it well in next year after flowering, putting in cuttings of the young shoots, after they become firm at the base, in sandy peat, covering them with a bell-glass. If you have shoots near the base, with dormant buds or eyes, you may cut the plant down in April, keeping it dry for about a fortnight, and yet keeping the soil moist, and when it has made shoots a few inches long repot it, disrooting and potting in a pot of smaller size, watering carefully until the roots are working freely in the fresh soil. Young plants would, however, serve your purpose better than an old plant that is tall and scraggy.

Manetti Stocks (*E. W.*).—You may pot the plants or stocks, and get them in January or February, the pots being plunged in a hotbed, or you may plant them out and bud them in July. Rivers's "Rose Amateurs' Guide" will suit you. It contains particulars of Rose-propagation. We do not know the plant from the sprig sent. Flowers and a better specimen are needed.

Sipho campylus Humboldtii Culture (*W. E.*).—Being from Peru, it requires a greenhouse. Keep it rather dry in winter, giving no more water than enough to keep the plant fresh, repot in spring when the plant begins to grow, reducing the ball, and potting in a size of pot no larger than sufficient to hold the roots comfortably. Keep it shaded and moist, avoiding over-watering at all times, but especially immediately after repotting, and when recovered from the potting expose it fully to light and air, assigning it a position near the glass. What pruning is needed ought to be done before the plant begins to grow. Pot into the blooming pot when the other pot is filled with roots, and do not give a large shift, as the plant when largely potted grows too much to wood. Train the shoots as required, to promote a compact, well-shaped plant. Syringe freely to keep down red spider. Good drainage is necessary, as when the plant is growing, an abundant supply of water is needed. A compost of two parts fibrous sandy loam, one part leaf soil or sandy peat, with a free admixture of sand, will grow it well.

Tacsonia Buchanani (*Idem*).—It would not succeed on the back wall of a stove, or even on the end. A greenhouse is more suitable, the shoots being trained moderately thin, and near the glass.

Anthurium Scherzerianum (*Idem*).—The Cucumber house would be a better place for this than the stove at the night temperature of 55°, though in such it would succeed if that temperature occurred only on cold nights.

Gooseberries (*J. Whalton*).—There is no book on growing Gooseberries for exhibition. Any bookseller could obtain for you the numbers of this Journal that you need to complete your set, if you let him know those which you have.

Lessee Removing Fruit Trees (*A.*).—We think that if you potted the trees now you might take them away when you vacate the premises at the end of three years, but the point has never been decided.

Names of Fruits (*W. Dalley, jun.*).—1, Glou Morceau; 2, Beurré Diec.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 16th.

Date.	Barometer.		Thermometer. Air.		Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 10	30.032	29.903	44	24	45	46	N.W.	.00	Overcast, frosty air; very fine; hail and snow; clear and frosty.
Thurs. 11	3 .253	30.159	41	16	44	45	N.	.00	Sharp frost; very fine, cold wind; clear and frosty.
Fri.... 12	30.344	30 228	49	40	40	43	W.	.00	Sharp frost; very fine; densely overcast and cold
Sat.... 13	30.131	29.937	54	41	44	43	S.W.	.00	Densely overcast; very mild; densely overcast at night.
Sun... 14	29.916	29 861	58	48	46	44	S.W.	.70	Overcast; fine, very mild; overcast, very mild.
Mon... 15	29 924	29.881	58	41	49	46	S.W.	.14	Densely overcast; rain; clear and fine.
Tues.. 16	30.007	29 924	58	36	49	46	S.W.	.00	Cloudy but fine; very fine; cloudy, clear and fine.
Mean..	30.082	29.976	52.14	35 14	45.28	44 71	...	0.14	

POULTRY, BEE, AND PIGEON CHRONICLE.

OUR POULTRY SHOWS.

"Aliquis" complains that I do not state in what the evil named in my letter of October 21st consists. It simply consists in the amount of dissatisfaction and distrust it engenders in the minds of absent exhibitors.

I have had considerable experience in the exhibition of poultry, and I have ever found that where an official of a show has taken the lion's share of prizes, a great deal of dissatisfaction has been expressed, even by exhibitors present; and therefore I am of opinion that secretaries and committeemen would better subserve the interests of the show with which they are connected, by refraining from competing for prizes altogether.

I have known "enthusiastic fanciers" refuse to act on committees in order that they might be exhibitors, and instances are not wanting in which large exhibitors have, for the benefit of their local show, refrained from competing for prizes, although they have allowed their birds to be exhibited, but had labels attached "not for competition."

I must pass over the enloginms "Aliquis" chooses to pass upon secretaries, committeemen, and the "lady" who wrote out "copy for the printer" as totally irrelevant to the question at issue, but I have always been led to suppose that honorary secretaries and committeemen "were willing to spend and be spent for their particular hobby" without fee or reward, either present or prospective. It appears that "Aliquis" thinks differently, for he asks "Why all this labour and expense?" Is it simply to bring birds from a distance to compete for their prizes? By no means, says "Aliquis." What in the world is it for, then? Let "Aliquis" answer. "It is to bring a great show home to their own doors." What for? "Aliquis" tells us, in order that "they may measure with their own eyes the produce of their own yards, &c, with those of their friends afar off." Now, it is sheer madness to suppose that any exhibitor, however affluent and exalted his position, stocks his yards with valuable bird purchased sometimes at fabulous prices, pays large entrance fees, subjects his pets to a long journey by railway, and sometimes to neglect and rough usage at the hands of officials or their employés, simply to afford local exhibitors and committeemen whom he has never seen, an opportunity of "measuring with their own eyes," &c. Anything more preposterous than this it is difficult to imagine.

I cannot agree with "Aliquis" that local prizes are given "on the assumption that the local man has but a small chance with the outside competitor." Indeed, the facts are directly against him, as is witnessed by the awards at the show to which I alluded; and I am also at a loss to understand his meaning when he says he cannot see any evil likely to result from the second complaint, when, directly after, he says, "I am quite open to admit that in offering a local cup, the contingency I have supposed (viz., a local exhibitor taking both the local and general cups) is not contemplated, and will not often occur; in fact its frequent repetition would defeat its original intention," &c. Here again "Aliquis" turns the tables upon himself, and strongly advocates the abolition of the system of which I complained, for we find this very "contingency" occurring twice at the same show.

Just a word or two in reply to "Gloucestershire," and I have done. I am sorry to say he is in many cases sadly mistaken respecting the competency of the men appointed to

handle the birds, &c., for the judges, for I have stood by when exhibitors have been allowed to witness the judging (which I think should be done where practicable), and seen valuable birds seized by the leg, the wing, and not unfrequently by the neck, and handed to the judge for examination. Competent persons ought to be appointed, but by no means ought these persons to be "local exhibitors" or committeemen who have birds in the show at which the judges are making their awards. —JUSTICE.

"EGOMET'S" tilt at "ALIQUIS" in "our Journal" of November 11th, is far more amusing than instructive. His fine burlesque, and the introduction of his French and Latin, do not explain to the poultry world how he would meet the chief question, or point out the way to induce committeemen to do all this finger-blistering, &c., without that "*quid pro quo*"—a fair chance of the prizes.

Now, "EGOMET" may be inspired by the best intentions. Knaves are to be found among all classes of men, and committeemen cannot claim exception to the rule. No harm can be done by being watchful and vigilant, checking all real abuses as they crop up, in or out of committee; but whenever the attempt is seriously made to entirely prohibit all those connected with shows from exhibiting, exhibitions generally must decline. A line must be drawn somewhere; if it be drawn too tightly it will snap. If committeemen are not to exhibit at their own show, poultry in a short time will be shown only in connection with cattle shows, few and far between; then farewell to the advanced breeding of our pets, and the "*quid pro quo*" of—AN OLD COMMITTEEMAN.

LONDON POULTRY SHOW.

IT will be seen in our list of poultry shows that this, to be held at the Crystal Palace, will commence on the 22nd of January, 1870. The money prizes much exceed £300, besides which there are more than twenty silver cups and other extra prizes. We know that many breeders of French fowls and others wish to subscribe for extra prizes, and they should promptly communicate with the Secretaries.

DESTROYING THE VITALITY OF EGGS.

IN "Letter Box," page 372, "HENWIFE" is answered—"We believe there is no certain mode of destruction, unless you spoil the eggs for breakfast purposes."

I believe there is a certain method of destruction—viz., to put the eggs in boiling water for half a minute, or even a minute. This does not destroy their use for breakfast as boiled eggs. It may not be known to all your readers, but it is, nevertheless, a fact, that an egg may be boiled for three minutes, morning after morning, for any number of times without making it any harder than it was on the first day, so that the uneaten eggs of one morning are quite fit for the breakfast-table on the following morning, and I doubt if any one would detect a difference if the second boiling were "unbeknown." The half-minute's boiling would make a layer of coagulated albumen inside the shell, and I imagine if it does not destroy the germ of life altogether, it must be an effectual barrier to the escape of any chicken.

The eggs, I suspect, would scarcely look as well for poaching, as some portion of the white would remain in the shell. —Y. B. A. Z.

SOUTHAMPTON POULTRY AND PIGEON SHOW.

As far as the number of entries was considered, as well as in the good quality of almost every pen entered for competition, the recent Southampton Show was unequalled, and it is a matter of regret that neglect on the part of some individual should have marred in any way a success that would otherwise have been almost without parallel. Boylike, there seemed to be a strong tendency to shoulder the blame from one to another; but we believe the correct statement to be the following. It appears to be admitted, without dispute, that early and direct engagements for the necessary pens were entered into by the Committee with Messrs Turner, of Sheffield, a fully sufficient number being specified. The representative of Mr. Turner asserts, "that the whole engaged number left for Southampton by rail a week previous to the day appointed for fixing them." Parties from the railway give the contrary version. Be the fault where it may, the Southampton Committee and all connected with the Show were alike sufferers. So many pens being short, a large number of the wire-tops were cut from some of the upper tiers to make fronts for those pens deficient, whilst the pens that were divested of their wirework tops had to be covered with loose boards, which was a change anything but advantageous or desirable. The result was, that again and again, during the arbitrations, the sole Judge found himself compelled to "hark back" class after class, because the whole of the pens of this or the other variety were either not begun or only in course of erection. This unexpected delay caused the awards not to be completed till between two and three o'clock in the afternoon of the day of opening, and even then but a very few of the prize cards were affixed to the winning pens. The absolute loss to the Society in reference to the sale of birds that might otherwise have been effected of course can never be ascertained, whilst the vexation entailed on the worthy and indefatigable Secretary Mr. Philip Warren, was indeed ill-deserved, for, as was observed on the spot by several amateurs, "the Southampton Show on all former occasions had gone on like clockwork." To enter into any farther detail of the identity of the responsibility in this affair we do not purpose, but perhaps a passing word may prevent the recurrence of such neglect and disappointment. We suggest it would be well in all agreements for the hire of show pens, to directly stipulate that the non-fulfilment of the contract from any cause whatever should entail on the parties supplying the pens the fine of £20. This would certainly make them especially careful as to the promptitude of the railway transit, and the erection of the pens on arrival. As we are unable to give many particulars respecting the quality of this really excellent Show, it may be as well simply to state, in justice to Messrs. Turner, that their new pens show a great improvement on the original ones so long known and so well encouraged. The present pens are wrought out of much thinner wire, though being well galvanised they are quite strong enough for any poultry, and as the wirework is closer, fighting of any kind is an impossibility. The fowls are more easily inspected, and the weight of the pens is so much reduced that the carriage from place to place is now merely nominal.

Some of the most remarkable classes were the *Brahmas*, both Light and Dark ones, the *Game Fowls*, *Dorkings*, *Turkeys*, and *Geese*. Of the latter, a pen of Sebastopol Geese, the most perfect yet exhibited, were entered. In the "Variety class" for fowls, a pen of fowls entered as "Gangesian," were evidently a new variety, being white, of very large size, throated and whiskered to an unusual extent. They promise to be a valuable addition to our domesticated poultry. The weather was exceedingly fine, and the attendance of visitors was particularly good. We gave last week a list of the prizes, and now append that of the commendations.

SPANISH.—*hc*, P. H. Jones, Fulham. *c*, C. F. Hore, Tunbridge.

DORKINGS.—*hc*, Viscount Turnour, Shillinglee Park; Dr. D. C. Campbell, Brentwood. *c*, H. R. Seymour. *Chickens.*—*hc*, J. Smith, Shillinglee, Petworth; O. E. Cresswell, Hanworth Rectory; J. Martin, Claines, Worcester; L. Patton, Hillmore, Taunton. *c*, Mrs. M. D. Dunn, Inglewood, Hungerford; J. Chisman, Rowuhams, Southampton; J. Hodgkinson, Southampton.

COCHINS (Any variety).—*hc*, Mrs. A. Williamson, Queniborough Hall, Leicester; W. Cole (Partridge); Capt. T. S. Robin, Fontenay, Jersey; H. Lingwood, Needham Market; W. N Scott (Buff); F. W. Rust, Hastings (Buff). *c*, T. M. Derry, Gedney (Buff); F. W. Rust (Buff).

BRAHMAS (Dark) —*hc*, J. Chisman; Rev. R. Parker, Wykeham Rectory, Fareham; W. Sims, Stroud. *c*, T. S. Robin.

BRAHMAS (Light .—*hc*, F. Crook, Forest Hill; Mrs. S. Vigor, Uxbridge; H. Dowsett, Pleshey, Chelmsford. *Chickens.*—*hc*. Mrs. A. Williamson; F. Crook; H. M. Maynard. *c*, J. Chisman; Mrs. Pattison, Wrackleford House, Dorchester; H. M. Maynard; J. Pares, Postford, Guildford; H. Dowsett.

GAME (Black and other Reds).—*hc*, W. H. Stagg, Netheravon, Amesbury; S. Matthews, Stowmarket; R. Hall, Cambridge. *c*, H. Loe; J. Jeken, Eltham; H. C. Dear, North Stoneham. *Chickens.*—*hc*, Rev. T. O'Grady, Hognaston Vicarage, Ashbourne; H. Gibson, Brockenhurst; S. Matthews. *c*, W. H. Stagg; H. Loe, Appuldurcombe; S. Matthews; H. C. Dear.

GAME (Other variety).—*hc*, W. Shenton, Worcester; S. Matthews.

HAMBURGHS (Silver and Gold-pencilled).—*hc*, J. Toll, jun., Cartuther Mills, Menheniot; R. Folton; S. & R. Ashton, Mottram; E. Brierley, Heywood, Manchester. *c*, Mrs. Pattison; F. Pittis, jun., Newport Isle of Wight; H. Pickles, jun.

POLANDS.—*hc*, G. Boothby, Louth, Lincolnshire.

FRENCH. — *hc*, H. M. Maynard (Houdans); J. Malden, Biggleswade, Faversham (Crève-Cœur); W. Dring (Crève-Cœur). *c*, Capt. T. S. Robin (La Flèche); W. Tippler, Duke's Roxwell, Chelmsford (La Flèche).

HOUDANS.—*Chickens.*—*hc*, Mrs. L. Paget, Wimborne, Dorset. *c*, Hill and Co., Brighton; W. O. Quibell, Newark; P. D. Maddox, Launceston; J. H. Dawes.

ANY OTHER VARIETY.—*hc*, J. Hodgkinson (Indian Pheasant).

GAME BANTAMS.—*hc*, H. Loe; A. Stonar, Peterborough; J. W. Kellaway, Mers'on, Isle of Wight.

BANTAMS (Other variety).—*hc*, Lady S. Turnour, Shillinglee Park (Japanese); Countess Winterton (Gold-laced); H. Pickles, jun., Earby, Skipton (Black). *c*, T. C. Harrison.

DUCKS (Aylesbury).—*hc*, Major-General H. P. de Bathe, Chichester; R. Fulton; W. Tippler. *c* G. Colmer, Southampton.

DUCKS (Other variety).—*hc*, L. H. Ricketts (Rouen); F. Pittis, jun. (Black East Indian); Mrs. Morant, Brockenhurst Park (Carolina); H. Dowsett (Rouen); C. F. Hore (Rouen . *c*, Major-Gen. H. P. de Bathe (Black Rio); Mrs. Turner (Muscovy); J. Toll, jun. (Rouen).

GEESE.—*hc*, Mrs. M. Ford, Weymouth (Toulouse); Lady Heathcote Winchester (Toulouse).

TURKEYS.—*c*, Major-Gen. H. P. de Bathe (Almond); J. E. Stubbs.

SELLING CLASS.—*Cock or Cockerel.*—*hc*, Viscount Turnour (Dorkings). J. Smith (Dorkings); H. M. Maynard, Holmewood, Ryde Brahma); S Samways, Lymington, Southampton (Brahma); R. Pople, West Moulsey (Dorking); S. & R. Ashton, Mottram (Golden-spangled); T. Rogers, Walsall. *c*, Capt. T. S. Robin (Breda); H. M. Maynard (Brahma); Mrs. Morant (East Indian); Hill & Co. (Houdan); W. Stanford, Steyning (Dorking); T. J. Saltmarsh (Partridge Cochin). *Hens or Pullets.*—*hc*, Mrs. M. D. Dunn, Ioglefoord, Hungerford (Dorkings); J. Chisman (Dorkings); Mrs. Malcolm, Beechwood, Totton (Dorkings); Lady S. Turnour (Japanese Bantam); H. M. Maynard (Houdans); Mrs. Bornaby, Nursling Mount, Southampton; Miss J. Millward, Newton St. Loe, Bristol (Cochins). *c*, J.

Chisman (Dark Brahmas); Rev. N. J. Ridley (Crossbred); Lady Heathcote (Houdans); F. Crook (Brahmas); Viscount Turnour (Dorkings); H. M. Maynard (Brahma); H. Loe, Appuldurcombe; W. Stanford, jun. (Game); F. Brewer, Lostwithiel (Houdans); J. R. Rodbard (Cochins).

PIGEONS.

Pouters.—*hc*, R. Fulton, Duke Street, Deptford; J. Hawley, Bingley. *c*, P. H. Jones, Fulham.
Tumblers.—*hc*, J. Lufkin, Farnham. *c*, P. H. Jones; C. Bulpin.
Barbs.—*hc*, H. M. Maynard; J. Hawley.
Jacobins.—*hc*, C. Bulpin. *c*, P. H. Jones.
Fantails.—*hc*, M. A. Vetts, Reading; Rev. W. S. Shaw, Bath; S. A. Wyllie, East Moulsey; J. F. Loversidge, Newark; J. Hawley. *c*, Rev. W. S. Shaw.
Owls.—*hc*, S. Wyllie; H. J. Kelsey. *c*, H. Hawley.
Turbits.—*hc*, J. C. Ord; R. Fulton; J. Hawley. *c*, J. Hawley; C. Bulpin.
Carriers.—*hc*, R. Fulton; W. Bishop, Dorchester. *c*, J. Lufkin.
Trumpeters.—*hc*, C. J. Spary, Ventnor; W. H. Cooper, Farnborough; P. H. Jones; C. Bulpin.
Nuns.—*hc*, C. Bulpin.
Dragoons.—*hc*, W. Bishop; C. Bulpin; H. Yardley; J. Hawley.
Any other Distinct Variety.—*hc*, Capt. T. S. Robin (Blue Runts); H. Yardley; W. S. Soder (Toys); J. Hawley. *c*, J. C. Ord (Hyacinths); H. Gibson (Yellow Magpies); S. A. Wyllie (German Spots, Ice, and Austrian Pouters); W. B. Ford (Antwerps); P. H. Jones; W. S. Soder (Frillbacks).
Selling Class.—*hc*, F. Pittis, jun. (Magpies); W. B. Tegetmeier, Finchley; W. S. Soder (Fantails and Toys); J. Hawley. *c*, H. M. Maynard (Carriers); J. C. Ord (Carriers); F. Pittis, jun. (Magpies); Miss J. Millward (Antwerps); P. H. Jones; E. Sheerman, Chelmsford.

CANARIES.

Norwich (Clear Yellow).—*vhc*, Bemrose & Orme, Derby; W. Walter, Winchester; Irons & Gayton, Northampton; J. Bexson, Derby; Moore and Wynn, Northampton. *hc*, W. Walter; H. Apted, Broadwater; Irons and Gayton. *c*, E. Lidstone, West Cowes; W. Walter; O. Nicholson, Landport.
Norwich (Clear Buff).—*vhc*, E. Hawkins, London; Irons & Gayton; J. Bexson; Moore & Wynn; O. Nicholson. *hc*, W. Walter; F. Hodding, Salisbury; Widdowson & Holme; H. Vine; H. Apted; T. Mann. *c*, G. E. N. Rawlinson; J. Bexson.
Norwich (Marked or Variegated Yellow).—*vhc*, Bemrose & Orme; W. Walter; Moore & Wynn; O. Nicholson. *hc*, Bemrose & Orme; Irons and Gayton; T. Mann, Camberwell New Road, London. *c*, Bemrose & Orme; J. Bexson; H. Apted.
Norwich (Marked or Variegated Buff).—*vhc*, Moore & Wynn; Widdowson & Holmes. *hc*, J. Bexson; H. Apted, Kettering; W. J. Toon. *c*, W. Walter; Irons & Gayton; O. Nicholson.
Norwich (Any other variety).—*vhc*, Irons & Gayton; Moore & Wynn. *hc*, H. Apted. *c*, O. Nicholson.
Belgian (Clear Yellow).—*vhc*, O. Nicholson; Widdowson & Holmes.
Belgian (Clear Buff).—*hc*, O. Nicholson; Widdowson & Holmes. *c*, E. Hawkins.
Beglian (Variegated or Marked Yellow).—*hc*, Widdowson & Holmes.
Belgian (Variegated or Marked Buff).—*hc*, Widdowson & Holmes. *c*, J. Hayes.
Lizard (Golden-spangled).—*vhc*, E. Hawkins; Rev. V. Ward, Canterbury. *hc*, Mrs. W. C. Drummond, Bath; J. Hayes. *c*, T. Fairbrass, Canterbury; Rev. V. Ward; O. Nicholson.
Lizards (Silver-spangled).—*vhc*, E. Hawkins. *hc*, O. Nicholson. *c*, Widdowson & Holmes.
Goldfinch Mules (Mealy).—*hc*, Rev. V. Ward.
Skylark.—*vhc*, O. Nicholson.
Woodlark.—*vhc*, W. Walter.
Blackbird.—*vhc*, T. J. Townsend, Lower Norwood; T. Webb.
Song Thrush.—*vhc*, H. Carter, Southampton.
Cockatoo (Any variety).—*vhc*, W. Walter (White).
Pheasants.—*hc*, W. Stead, Romsey.

BIRMINGHAM PHILOPERISTERON SOCIETY'S SHOW.

The third meeting of the Birmingham Philoperisteron Society, held on the 11th inst. at the Athenæum Hall, proved most successful, and in every respect surpassed the two former shows. The Carriers formed large and excellent classes, and from their general perfection drew much attention. In Pouters, unquestionably the White ones, of which there were some half-dozen pens, would have added much to the credit of any meeting. The winning Almonds were well worthy of the silver cup, and had travelled from Beverley to compete. Fantails proved very large classes, and among them were many, both Blacks and Blues, that were far beyond those generally shown. Dragoons always a strongly filled class, and Antwerps, which seem to be equally great local favourites at Birmingham, well repaid careful examination. A somewhat unusual entry was made by Mr. Yardley of three varieties of fancy Pigeons—viz., Barbs, Carriers, and Almonds, shown in very large cages, each containing twenty first-rate specimens of the respective varieties. A grand pair of Swift Pigeons from Egypt were objects that from their extreme rarity excited considerable attention, and secured for the owner one of the five silver cups that were offered for competition.

The general arrangements of the Show were satisfactory, and the Judges for all the fancy Pigeons were Mr. Hewitt and Mr. Yardley; and the Judge for flying Pigeons was Mr. Beardmore.

YOUNG BIRDS.

Carriers.—1, J. Smith, Birmingham. 2 and 3, J. Wood, Derby. 4, F. F. Foster, Birmingham. *hc*, J. F. While, Birmingham.
Pouters.—1 and 2, G. Sturgess, Leicester. 3, F. F. Foster.
Almonds.—1 and 2, H. Adams.
Balds and Beards.—1, J. W. Edge. 2, F. Graham, Birkenhead.
Short-faced (Any other variety).—1 and 3, H. Adams. 2, W. Whittaker, Belper, near Derby.
Jacobins.—1, J. W. Edge, Birmingham. 2 and 3, G. F. Whitehouse.
Fantails.—1, G. Sturgess. 2, F. Graham. 3, J. W. Edge. 4, G. Sturgess. *hc*, F. Graham.
Trumpeters.—1, W. Whittaker. 2 and 3, T. Robson, Penkridge.
Owls (Foreign).—1, F. Graham. 2, G. F. Whitehouse.
Owls (English).—1, F. F. Foster. 2, J. W. Edge. 3, W. Whittaker. *c*, G. F. Whitehouse.
Turbits.—1 and 4, C. Barnes, Birmingham. 2, G. Sturgess. 3, F. Graham.
Barbs.—1 and 3, F. F. Foster. 2 and *hc*, C. Barnes.
Nuns.—1 and 3, F. Graham. 2, G. F. Whitehouse.
Dragoons.—1, F. Graham. 2, W. Whittaker. 3, T. Robson. 4, J. W. Edge. *hc*, G. F. Whitehouse.
Magpies.—1 and 3, T. Robson. 2, G. F. Whitehouse.
Antwerps.—1, 2, 3, and 4, J. E. Cleveland, Birmingham.
Any other Variety of Fancy Pigeons.—1, 2, 3, and 4, W. Whittaker.
Badges (Black).—1 and 2, H. Sproston, Birmingham. 3, A. Walthew.
Badges (Blue).—1, 2, and 3, A. Walthew.
Badges (Any other colour).—1, H. Clulee, Birmingham. 2, H. Sproston.
Saddles (Black).—1, J. W. Edge.
Saddles (Blue).—1 and 2, A. Walthew.
Rosewings and Redbreasts.—1 and 2, A. Walthew.
Tumblers (Any other variety).—1 and 2, F. F. Foster.

ANY AGE.

Carriers.—*Cocks*.—1, J. F. While. 2 and 3, F. Smith. *Hens*.—1, J. F. While. 2, F. Smith. 3, G. F. Whitehouse.
Pouters.—*Cocks*.—1 and 2, G. Sturgess. *Hens*.—1 and 2, G. Sturgess.
Almonds.—1 and Cup, H. Adams. 2, W. Whittaker. *hc*, F. Graham.
Balds or Beards.—1, 3, and *hc*, F. Graham. 2, W. Whittaker. 4, J. W. Edge.
Short-faced (Any other variety).—1, F. Graham.
Jacobins.—1, J. W. Edge. 2, F. Graham.
Fantails.—1 and Cup, J. F. While. 2, F. Graham. 3, O. Sturgess.
Trumpeters.—1, 2, and 3, T. Robson.
Owls (Foreign).—1 and Cup, F. Graham.
Owls (English).—1, J. W. Edge. 2, G. F. Whitehouse. 3, F. F. Foster.
Turbits.—1, 3, and 4, T. Robson. 2, F. Graham. *c*, J. W. Edge.
Barbs.—1, Cup, 2, and 3, F. F. Foster.
Nuns.—1, G. F. Whitehouse.
Dragoons (Blue).—1, J. Walters, Derby. 2, Withheld.
Dragoons (Any other colour).—1, G. F. Whitehouse. 2, F. Graham. 3, F. Smith.
Magpies.—1, W. Whittaker. 2, T. Robson. 3, G. F. Whitehouse.
Antwerps.—1, F. Smith. 2, J. Walter.
Swallows.—1, J. E. Breward, Coventry. 2, G. F. Whitehouse. 3, G. Sturgess.
Any other Variety of Fancy Pigeons.—1 and Cup, G. Sturgess (Swifts). 2, J. F. While (Laborers). 3, J. E. Breward (Archangels). 4, G. F. Whitehouse (Fairies).
Antwerps.—*Cocks*.—1, W. Whittaker. 2, J. Watts. 3, F. F. Foster.
Badges (Black).—1 and 2, H. Sproston. *hc*, A. Walthew.
Badges (Blue).—1, H. Sproston. 2, H. Clulee.
Badges (Any other colour).—1, H. Clulee.
Saddles (Black).—1, 2, and *hc*, H. Sproston.
Saddles (Blue).—1, H. Clulee.
Rosewings and Redbreasts.—1, A. Walthew.
Tumblers (Any other variety).—1, A. Walthew.

STOKESLEY CANARY SHOW.

"When you arrive at Stokesley station, take the 'bus to the 'Black Swan,' where you will find breakfast waiting for you." Such was the kind intimation I received from Mr. Horatio J. Tweddell, the Honorary Secretary of the Stokesley Society; and after a cheerless ride on a cold, wet November morning, it commended itself to my judgment as a most happy arrangement. Indeed, when I found myself seated in a comfortable arm-chair beside the fire in the parlour of the "Black Swan" aforesaid, discussing the merits of Yorkshire ham and eggs, I voted the Judge's breakfast to be a right noble institution, well worthy of adoption by all kindred societies. I went into that hostelry a cold, damp, morose man, and left it a warm, dry, benevolent-looking individual, and as I wended my way down to the National Schoolroom, where the Show was held, I felt on remarkably good terms with myself.

The pretty little town of Stokesley was in a state of commotion, for besides being market-day it was the "hirings," and I passed *such* lonny Yorkshire lasses standing in the market-place waiting to be hired. The scene had the charm of novelty to me, and it was amusing to listen to some of the bargain-making between master and servant. I lifted up my head and put on my best looks, made the most graceful step which the lingering remains of a slight attack of lumbago would admit of, and gave just the faintest shadow of a cough as I passed any unusually attractive group; but it was all thrown away, and when I heard a suppressed titter issuing from the mouth of an Amazon whose "points" very much resembled those of the Canary most in vogue in Yorkshire—viz., 1st, large round head; 2nd, long straight neck; 3rd, broad shoulders; 4th, straight back, and well filled in; 5th, firm stand, and bold carriage, &c., I thought it was time for me to demean myself in a manner more befitting the sober dignity of the representative of "our Journal," and by the time I reached the show room I was in a proper frame of mind to pronounce on the merits of the birds, which were staged to the number of nearly three hundred.

Taking the Exhibition as a whole it was one of great excellence. Many of the best birds were at Darlington, and had obtained honours there, and any special mention of them now would be tedious; but I cannot pass Classes 14 to 18, the Yorkshire variety, without comment. The true Yorkshire bird seems either to be dying out, or is being lost sight of in the person of a mongrel, which, whatever it may be, is most assuredly not what it represents itself to be. One would say that in such a case the Judge's duty is very plain—to disqualify the

whole class, or at least those birds which bore impostor stamped on them. True; but this crossing with one variety and another to obtain colour, shape, or some other fancied excellence, has of late years become so much a matter of custom among the Yorkshire fanciers, as to have opened the door for a spurious species of judgment prejudicial to the best interests of the admirers of this really very pretty bird; and the awards at most of our shows, and also where I have assisted myself, have frequently been given to the fashionable modern bird rather than to the true type, till at last *colour* has become so much the rage, that large Norwich birds which have taken prizes as such have also been exhibited, and successfully too, in the Yorkshire classes. This has been done with the entire acquiescence of the fancy, each man getting his turn as the Judge admired his particular speciality or otherwise. This state of things, however, was sure to work its own cure, and I brought the matter to culminating point by awarding the prizes to specimens differing most widely in their characteristic features. Of course all the intermediate men were much disappointed, but the verdict was, "Served us right;" and I venture to predict I have done a real good to a most beautiful variety of the Canary—the true Yorkshire. To all whom it may concern I say, in prospect of Middlesbrough, Stockton, Thirsk, and elsewhere, Don't enter Norwich birds in the Yorkshire class, but put them in their right place, and give the others fair play. And to those who may be wishful to breed the Yorkshire variety in its purity, I would say, It requires no admixture of the Jonque, for that is not its legitimate colour, nor is the shape and carriage of the Norwich Canary that of the Yorkshire.

Goldfinches, Linnets, and British birds generally were well represented, and there was the prettiest collection of foreign birds I have seen for some time.—W. A. Blakston.

Belgian (Yellow).—1, J. N. Harrison, Belper, Derby. 2, W. Needler, Hull. 3, R. Robinson, Middlesbrough.

Belgian (Buff).—1, W. Needler. 2, R. Robinson. 3, J. N. Harrison.

Norwich (Clear Yellow).—1, T. Irons, Northampton. 2, Moore & Wynn, Northampton. 3, Pennock & Blackstone, Whitby.

Norwich (Clear Buff).—1, Pennock & Blackstone. 2, R. Simpson, Whitby. 3, Moore & Wynn.

Norwich (Yellow, even marked).—1, E. Mills, Sunderland. 2, Moore and Wynn. 3, J. Bexson, Derby.

Norwich (Buff, even marked).—1, G. Gayton, Northampton. 2, Pennock & Blackstone. 3, J. Young, Sunderland.

Norwich (Yellow or Buff, uneven marked or ticked).—1, R. Hawman, Middlesbrough. 2, Pennock & Blackstone. 3, J. Bexson.

Don (Cinnamon).—1, T. Irons. 2, J. Bexson. 3, Moore & Wynn.

Dun (Buff).—1, J. Bexson. 2, T. Irons. 3, J. Young.

Lizard (Golden-spangled).—1, T. Standfield, Stockton. 2, W. Needler. 3, Pennock & Blackstone.

Lizard (Silver-spangled).—1, R. Hawman. 2, S. McKew, Stockton. 3, J. Taylor, Middlesbrough.

Canary (Dark or Grey-crested).—1, T. Irons. 2, T. Armstrong, Broughton. 3, Pennock & Blackstone.

Canary (Yellow or Buff-crested).—1, W. Cotton, Middlesbrough. 2, T. Irons. 3, J. Garbutt, Broughton.

Canary (Clear Yellow Yorkshire).—1, M. Burton, Middlesbrough. 2, T. Armstrong. 3, J. Garbutt.

Canary (Clear Buff Yorkshire).—1, S. Hawman, Middlesbrough. 2, W. Mountain, Ayton. 3, Porritt & Raw, Ruswarp.

Yorkshire (Yellow, even marked).—1, J. Taylor. 2, M. Burton. 3, R. Hawman.

Yorkshire (Buff, even marked).—1, J. Taylor. 2, W. Needler. 3, M. Burton.

Canary (Yorkshire, uneven marked or ticked).—1, G. Garbutt, Broughton. 2, W. McLachlin, Whitby. 3, T. Whitelock.

Cage of Eight Canaries, not more than Two of each Variety.—1, R. Harker, Stokesley. 2, G. Garbutt. 3, E. Barker, Whitby.

Mule (Variegated Goldfinch).—1 and 2, J. Young. 3, R. Robinson.

Mule (Dark Goldfinch).—1, Moore & Wynn. 2, M. Burton. 3, J. Yates, Middlesbrough.

Canary (Clear Green).—1, M. Burton. 2, R. Fidler. 3, T. Teuniswood, Middlesbrough.

Goldfinch (Moulted).—1, W. McLachlin. 2, J. Young. 3, G. Garbutt.

Linnet (Moulted).—1, J. N. Harrison. 2, J. Young. 3, W. Maynard, Ingleby Manor.

Any other Variety of British Birds.—1, W. Simonson, Stokesley (Thrush). 2, S. McKew (Blackbird). 3, J. Cuthbertson, Stokesley (Bullfinch).

Any Variety of Foreign Bird.—1, T. Bailey, Sowerby, Thirsk. 2, T. R. Untbank, Stokesley (Parrot). 3, Miss Cheveley, Ingleby Manor (Madagascar Grossbeak).

Judge.—Mr. W. A. Blakston, Sunderland.

SATINETTE PIGEONS.

I trust you will give publicity to the facts which led to the remark in my advertisement in respect to the Satinettes. When I bought Mr. Noyé's stock, he expressed to me that "there were two pairs in the lot better than he ever had, including the best pair he exhibited at the Bingley Hall last year." This remark led me to the conclusion that it was the first-prize pair, and consequently I advertised them as such, and though it was a misunderstanding, I am perfectly satisfied that I possess the best two pairs he ever had.—H. Yardley.

Dublin Exhibition Palace Show.—In our advertising columns may be seen the time of the holding this exhibition, and whence to obtain full particulars, but we must observe that the prize list is most liberal. Prizes are given for poultry (including separate rewards for Houdans, Crêve-Cœurs, and La Flèches), Pigeons, cage birds, and even for cats. There are eighteen silver cups, in addition to the money prizes, which vary from £5 to 10*s*.

REVOLUTIONISING A HIVE.

Some time since, having introduced a stock of Ligurian bees into our apiary, we found that to keep the breed pure we must either banish all the old hives or else depose the queens, and as the stocks were very strong and in frame hives we determined to try the latter; and how we managed this is what I wish to convey to you.

Mr. Woodbury having kindly undertaken to procure six Italian queens, about the 10th of October we went over the same number of hives, and set right any of the combs which were not quite straight or confined to one frame. We then made half a dozen boxes, to receive the queens we had a design on, in the following way: They were about 4 inches square, and in the bottom we bored two three-quarter-inch holes 2½ inches apart, over which on the outside was fixed a strip of zinc with one tack, so as to open or close the holes easily. The top we closed with a piece of glass hinged to the box with a strip of linen and glue. Having fixed a piece of sealed comb we placed one of these over each hive, opening enough of space in the slide-in honey board to admit the bees through the holes before referred to. By these means we got all the loose honey cleared up, and the pieces of comb firmly fixed in their places, and we next day removed the boxes, none of the sealed cells having been opened. The boxes so prepared were kept until we were advised of the expected arrival of the foreigners, when about an hour before opening the hives to hunt for the reigning queens they were replaced on the hives as before, by which means we secured the proper quantity of bees to keep her company during her captivity. This search for the queen is the most difficult part of the work, and requires great care in examining each comb in order not to pass her over. It took us two days to find the six, as we could only open the hives during the warmest part of the day for fear of chilling the brood. As each queen was secured she was slipped into the prepared box through one of the holes in the bottom, and this can be done without the least risk of letting her escape; and all the boxes were then covered up with a board to keep out the light, and placed in a warm room. To capture the new queens we used a 7-inch bell-glass, and found it very easy to do so by removing the cover from the boxes as quietly as possible in a room with one window, and shaking the bees into the glass, over which we placed a board, and, on reversing it, in every case we found the queen in the cluster. Waiting until she was separated a little from the other bees, we shifted the glass so as to leave her outside, and put a wire cage (or pipe-cover) over her, and then slipped a small piece of paper under it, having at the same time enclosed two or three of the bees with the queen. Taking the cage and paper we placed it on the desired place on the comb taken from the hive which we wished her to rule over, and drawing away the paper forced the cage into the surface until its lower edge came in contact with the "partition wall," as instructed by Mr. Woodbury in your Journal; and having replaced the comb, left it until next day.* On opening the hives we found it was not safe to liberate the captives, so had to leave them until the day following, when they were all liberated and received as they should be.

In conclusion, I have only to say that by following Mr. Woodbury's directions in your Journal a novice will find it easy to ligurianise any stock in a frame hive; and the only point on which I would at all differ from him is the time of keeping the queens confined, which should be, I think, at least two days; but this may only apply to this time of year, when the bees are not so lively as in the early part.

I omitted to mention, that when the queens are all captured the Ligurian bees may be all shaken or swept into the bell-glass, and, being sprinkled with honey, may be added to any of the stocks by placing the cup glass over the hive, from which the slide has of course been removed.—Hibernian Bee.

SPURIOUS HONEY.

"A Manchester Man" makes some remarks in your issue of the 4th inst., relating to my letter of the 28th of October,

* We shall publish a drawing of the cage thus employed.

which are calculated to convey a wrong impression as to what I meant regarding "the shape and material of the hive having very much to do with the quantity and quality of honey collected." It is true it matters not whether a hive be round, octagonal, hexagonal, or square, the honey stored would be to some extent the same; nevertheless, it is a well-known fact, that honey gathered from the same sources and stored in different parts of the hive, will have quite a different appearance and taste, although it may all be collected within a few days. So, then, the construction, which is the shape, whereby we can regulate the hive in every emergency, thus preserving the purity of the honey and augmenting the store, is of great importance; besides which, a hive should admit of, and offer, every facility for manipulation, such as adding and diminishing space, ventilating, depriving, artificial swarming, queen-rearing, &c. Not so with the hive which he describes; neither are Tegetmeier's hives the best. The Stewarton hive with moveable bars and crown-board is much superior, and taking everything into consideration equal to the Woodbury hive, although the last-named may have the preference in consequence of the combs being all of one size, this hive being, in fact, the one which I myself use; but I work it upon the Stewarton principle, and have hives yet standing which still weigh 100 lbs., after having taken half a hundredweight of fine comb from each; and may I inform "A Manchester Man," if he wants figures to prove the superiority of hives, that I am acquainted with a bee-keeper who had this year fewer hives than he states Mr. Pettigrew to have had, and yet obtained no less than a ton of fine comb in supers, besides a considerable quantity of inferior quality?

Your correspondent says, "We Manchester men prefer the article which gives the largest and best result." And so do we who work on the Stewarton principle, but we do not grudge a few pounds at the first outlay, as the produce soon repays it. I regret that he did not succeed with the Tegetmeier hives, as the fault lay not in the material, but in the management. Had he adopted the plan that I recommended some time since, and which was described at the same time by Mr. Langstroth, a very high authority on bees, his hives would not have succumbed to internal moisture. Many people place too much stress on the material of which the body of a hive is made; they seem quite to forget that the most of the hive is surrounded with comb which is most impervious to change, and that it is the crown that is the most particular part. Nature alone suggests this. It ought, then, to be managed in such a way as to carry off all moisture. Whereas the hive described by "A Manchester Man" is quite opposed to all this, and to every principle of good management.

With reference to judging honey by tasting, fancy, say fifty different lots, what would a person's taste be worth by the time he got to the end of it? Or, say a merchant choosing from one hundred different samples of anything, if he had to taste it. I assure your readers, the best judge is one who by appearance, smell, and commonly the feel, can detect a good article.

"A Manchester Man" comes pretty near the truth when he says the stronger the stock the more workers there are, the more honey will be collected. Now, the hive for this is the Stewarton one; but he must not be carried away by the notion that a hive 16 by 12, is a large hive, thrice that size might be said to be a large one.—A Lanarkshire Bee-keeper.

P.S.—I have forwarded two samples of honey which have been pronounced by novices, and men of skill, such as Mr. A. Pettigrew, to be sugar, but which I consider to be as fine honey as I have ever met with. No. 1 is from Ligurian bees. No. 2 was gathered in the same locality but by black bees. I should like to hear your opinion, as I consider the Ligurian honey the better, also what you think of them.

[The honey in each pot is very pale, and look like a supersaturated syrup of refined sugar. That in the pot No. 1, gathered by the Ligurians, is the whitest and most solid. Each is an excellent specimen of honey, well-flavoured, but beginning to crystallise.—Eds.]

OUR LETTER BOX.

Weight of Young Turkeys (*H. B.*).—Much depends on the breed and feeding. If they are Cambridge, and the food meal or oats, with a few peas and beans, mixed with milk, we should expect the hens to weigh 9, the cocks 12 to 14 lbs. each, when nearly five months old. These would be birds that have never had a check, but have thriven all their lives. No bird ever reaches the top weight of its breed or class unless it is fed from the first with a view to that result.

Tardy Moulting of a Cochin-China Cock (*A. T.*).—The older Cochins grow, the greater difficulty they experience in moulting, and the longer the process seems to be about. At three years old the best days of a Cochin are over, and nothing but good living will carry your bird through. For a young bird we should advise cooling food, for an old one we advise stimulants. Give him ground oats mixed with milk, meat chopped fine, and eggs. He must not be without grass and fresh earth, and should be kept alone. You may give him some ale twice every day.

Lacing of a Silver-spangled Hamburgh Cock (*A Subscriber*).—It is a disputed point whether the wing should or should not be laced. Our own opinion is that it should be. Mr. Baily's book on "Fowls" gives the points.

Cockerel not Amatory (*Monthly Reader*).—The time of year has much to do with the apparent reluctance of the cock to attend to the hens. This inattention will probably increase rather than otherwise till after Christmas. It is not the less true that birds have their antipathies, likes and dislikes. The description you give of the dwindling chickens is that of crop-bound birds. This arises from improper feeding, especially feeding from troughs. Feed them sparingly, and supply them with grass; discontinue the rice. The coop should not be put on stones, but on earth. Fowls should never be on stones, boards, or brick.

Face of the Spanish Cockerel (*Spanish Cock*).—A Spanish cockerel at six months old is far more advanced in face than a pullet at nine; he has not always a "dead" white face, but it does not follow he will not have. He should have no red when he is shown if he is expected to win. No real judge will allow a trimmed Spanish fowl to appear in the prize sheet. Many are disqualified by it. Hairs may be removed from the face without detection, but the feathers from the base of the comb to the beginning of the face cannot be tampered with with impunity.

Lame La Flèche Cock (*A. D. C.*).—It is probable the lameness proceeds from weakness. If so, he will be in the habit of roosting on his knees. He will require to be well fed three times per day, and one meal should be stale bread steeped in ale. The other feedings should have no whole corn in them. Barley meal or ground oats, if mixed with milk so much the better, cooked meat chopped fine, and even eggs boiled hard and minced, are the best food for him, given a very little at a time. You must judge for yourself whether the patient is worth the trouble and the expense.

Silver-pencilled Hamburghs (*A Two-years-old Sub.*).—Refer to our advertising columns. Some were advertised last week. If you wish for very superior birds, write to some of the owners who took prizes with Silver-pencilled Hamburghs at the shows of which we publish the prize lists.

Eggs of Dark Brahmas (*G. E. Gettins*).—Write to some of the well-known breeders who advertise in our columns.

Barb Pigeons (*Columbarian*).—Write to some of those who have taken prizes with them.

Fantail Pigeons with Incased Tail Feathers (*L.*).—We have also found this to be the case very frequently during the present year with our most highly-bred and delicate birds, especially with the hens. The cause is delicacy of constitution; the cure, warmth and good nutritious food. Keep your birds in on cold damp days. With some of the incased feathers you may, when the sheath is sufficiently dry, peel it off, splitting it carefully with your nail, or a penknife's point, but only as far as it is quite dry. With our birds we have entirely changed the food, and make them (for Fantails are idle birds), come some distance to be fed, instead of feeding them in their house when the weather is fine and dry, being sure that exercise strengthens and does good to every biped, feathered or otherwise. But warmth has much to do with the cure, while damp weather or rain makes the sheath tough and prevents its drying and scaling off, as it will do in warm weather. Do not pull the feathers out, as worse will probably succeed.

Honey Dark-coloured (*G. Chapman*).—The dark colour of your honey arises from some peculiarities of the season, or in the pasturage, and may not occur again. It is said that honey collected from honey-dew is often very dark.

Bottle-feeding Bees (*Conservative*).—The pattern which you enclose is of too close a texture for covering the mouths of feeding-bottles. As stated in page 26 of the last edition of "Bee-keeping for the Many," as well as repeatedly in our columns, "it is a mistake to use muslin for this purpose, or, in fact, any material the meshes of which are less than a sixteenth part of an inch wide." With flat-topped hives where the aperture can be covered with perforated zinc, the only use of the net is to enable the bottle to be conveniently inverted. When this is effected, the net may be withdrawn altogether, as we have often done in the case of large wide-mouthed bottles when we wished to afford the bees every facility for taking food quickly. No other feeder is at all to be compared to the inverted bottle, and your question as to the food running through faster than the bees can take it up is founded on a complete but very common misapprehension. If properly managed, the bottle retains its contents by atmospheric pressure, on the principle of a bird-fountain. When once inverted and in its place, not a drop runs into the hive, but all remains perfectly suspended until removed by the bees. When, however, the bottle-mouth is tied over with material of too close a texture, the syrup appears so to clog the meshes that air cannot readily enter, and its surface assumes a concave form, which, when perforated zinc is interposed, withdraws nearly the whole of it beyond the reach of the bees' tongues, and the process of feeding under these circumstances becomes very slow indeed.

POULTRY MARKET.—November 17.

The supply is ample, and the trade bad. The late close weather has had a deadening effect on the market.

	s.	d.		s.	d.
Large Fowls	3	0	to	3	6
Smaller ditto	2	6		3	0
Chickens	1	6		1	9
Geese	6	0		7	6
Ducks	2	0		2	6
Pheasants	2	6		3	0

	s.	d.		s.	d.
Partridges	1	4	to	1	6
Grouse	2	0		2	6
Pigeons	0	8		0	9
Hares	2	6		3	0
Rabbits	1	4		1	5
Wild ditto	0	9		0	10

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOV. 25—DEC. 1, 1869.	Average Temperature near London.			Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
25	Th	Michaelmas Term ends.	46·4	33.5	39.9	21	36 af 7	58 af 3	5 af 10	after.	22	12 46	329
26	F		47.1	32.9	40.0	23	38 7	57 3	21 11	4 af 1	☾	12 27	330
27	S	Princess of Teck Born, 1833.	47.0	33.5	40.3	20	39 7	56 3	morn.	30 1	24	12 7	331
28	Sun	1 Sunday in Advent.	48.3	34.4	41.4	20	40 7	55 3	40 0	56 1	25	11 47	332
29	M		48·0	33.7	40.8	20	42 7	54 3	59 1	20 2	26	11 26	333
30	Tu	St. Andrew.	48.1	34.2	41.2	22	44 7	54 3	21 3	45 2	27	11 4	334
1	W	Princess of Wales Born, 1844.	48.6	34.9	41.7	21	46 7	52 3	43 4	12 3	28	10 41	335

From observations taken near London during the last forty-two years, the average day temperature of the week is 47.9°; and its night temperature 38.7°. The greatest heat was 60°, on the 28th, 1828; and the lowest cold 9°, on the 25th, 1858. The greatest fall of rain was 1.21 inch.

THE PROPER SETTING OF A SADDLE BOILER.

THERE has been so much said lately on the different forms of boilers and methods of heating, nearly every maker of boilers having invented or patented new forms—each of which, if we believe the advertisements, is superior to any other, and more economical in point of fuel—that I feel it is rather bold of me to venture to add anything upon so well-worn a subject. It seems to me, however, that nearly every boiler-maker, in endeavouring to outvie his rivals in the trade in the invention of new forms, is making the forms so complex as to add materially to the difficulty of keeping boilers in working order, and from the inequality of expansion and contraction, adding a great element of weakness. In endeavouring, too, to make all the use they can of the vertical action of heat, they are forgetting one of the primary laws of the radiation of heat—"That heat radiates equally in every direction;" or, I might express it in another way, that the secondary law of heat, "That heated air and the products of combustion rise," seems to swallow up the first or more important law, that heat radiates equally in every direction in right lines, and varies in intensity according to the square of the distance from the source of heat. I speak of this as the primary and most important law, because it is owing to this law of the propagation of heat through a transparent medium like the atmosphere that we are indebted for the heat of the sun. This transmission of heat through transparent media occurs with the same velocity as light itself.

Why I am inclined to think that this, the primary law of heat, is much neglected, or rather set aside, is that, in talking over the matter with many gardeners, I have found nearly every one thinks that the heated products of combustion brought over the top of a boiler only heat the brickwork above, and are of little benefit to the boiler itself. Now I maintain, on the contrary, if an ordinary saddle boiler is properly set with brickwork 3 inches from the side, and arched over the top, so that the heat from the fire shall traverse all round and over the top of the boiler, in the same way as ovens in the present close kitchen ranges are heated, that the heat given off to the boiler by the flue is greater than the heat from the fire on the inner surface. I will take first the case of an ordinary saddle boiler, we will say 2 feet long, 22 inches wide exterior measure, and 20 inches high—to take a rough measure in square inches, the interior surface will be about 930 square inches, the exterior about 1250 square inches, the whole of which exterior surface may be heated from the flue. Taking into consideration that every time the fire is mended, the coal, till it is thoroughly ignited, gives no heat near the furnace door, and that owing to the laws of heat the draught from the chimney carries the heat away directly to the farther end of the boiler, it will be seen that only one-half of the interior of the boiler receives the full benefit of the fire, while the whole of the exterior of the boiler is heated; and it seems to me absurd to say that this contracted body of heated air in rapid motion should be hotter on one side than the other—*i. e.*, that it should heat the brickwork above, but not heat the boiler below.

Another objection which has been raised is, that this heat applied to the top of the boiler does no good, because as heated water rises the water at the top is hotter than the water at the bottom of the boiler, and that we ought to heat the water where it is coldest. This, I need hardly say, is entirely an imaginary disadvantage. The whole of the proper working of heated water depends upon the circulation of water in the pipes, from the law of heated water being lighter than cold water, and the superheating helps to increase this circulation. It may not be generally known that the rate of expansion of water increases very materially as it approaches boiling-point: thus, between 68° and 176°, the volume of water increases $\frac{36}{1000}$: between 176° and 212° it increases $\frac{16}{1000}$; or in other words, 1000 parts of water at 212 become 986 at 176° Fah., and 960 at 68° Fah. It is very true, again, that in a large, long horizontal flue the upper part is hotter than the bottom, but in this case the products of combustion are always seeking to rise, and the hottest and lightest air beats against the surface of the flue; but what is an argument in a long horizontal flue, is no argument in the confined and contracted flue round a saddle boiler. Any mason, too, who is familiar with setting sheet-iron ovens, knows that an oven is as much heated from the top as it is from the bottom.

There are several modifications of the old saddle boiler, which, no doubt, when properly set are superior to it; but, then, at the same time, they are more expensive. The terminal saddle and Ormson's concentric are both useful modifications. About two months ago (September 16th), I was over at Mr. Pearson's, of Chilwell, and saw Foster's boiler, which is also an improvement on the old saddle, and seemed to be doing its work well, though there was a large "hatful" of coals on when I saw it, or at all events the man whose head would suit the hat ought to have a good deal of brains; and with due deference to Mr. Pearson, I do not think he has done the boiler justice with the way he has set it, and except that he utilises the heat in his flue by making it pass through the whole length of a double span vinery, I should have said that much heat from the fire is wasted, and a great deal of heat from the boiler itself goes to heat the brickwork in which it is set. I also do not like the exterior elbows and pipes which connect the different parts of the boiler together, still I think it is one of the best modifications of the saddle I have seen.

From boilers I am naturally led to the position of pipes, and also to the position of boilers in regard to the pipes. A very great mistake I often see is that the pipes in many vineries are laid on the ground, or so near the ground that nearly half of the heat from radiation is lost, and only goes to warm the surface of the adjoining ground. Pipes ought to be placed with as free a circulation of air round them as possible, and in plant houses there is no better place than under the stages, allowing the air from the

outside to play directly against the pipes before entering the house—there are so many who cannot distinguish between ventilation, or the proper circulation of air, and draughts, and will open lights during cold easterly or northerly winds with hot sun, so as to let the air beat directly on the leaves of the plants. I need hardly say that no ventilation of houses is perfect which does not allow of a thorough change of air in a house without direct draughts.

Again, with regard to the position of boilers. One often sees boilers placed 10 or 12 feet below the level of the floor of the houses to be heated, as if this were necessary for the proper circulation of the water, and yet the same persons who go to this expense in excavating for the boiler house will not hesitate to bend the flow pipes down to go under a path, or twist them about in any way to suit their convenience, and will run hundreds of feet of piping on a dead level. Other persons, again, feed the boiler from a cistern placed several feet higher than the highest flow pipe, on the score of the pressure assisting the flow; forgetting that when the equilibrium is once established, or, in other words, that as soon as water has found its own level, this additional pressure is a positive injury instead of good, as it tries all the joints of the pipes. Again, we see these feeding cisterns placed in all manner of positions, some at the top of the furthest flow, others near the boiler, and so on, without any rule. I have even seen the supply pipe at the first bend which rises from the boiler top. Now, undoubtedly the best place for the supply pipe is the bottom of the boiler, and, if possible, it should not be connected with the pipes, but with the boiler itself. The feed pipe, too, should be one of large diameter, as the pressure on the boiler is inversely proportionate to the square of the radius or diameter of the pipe, so that the smaller the pipe the greater the pressure: and if the supply pipe is of good size, and is connected directly with the boiler, it acts as a great safety-valve, and takes the additional pressure away from the pipes which the heating of the water gives. Where it is practicable, the supply cistern ought itself to be fed from another cistern by means of a tap regulated by a ball-cock, so as to keep it always at one uniform height and to save the trouble of constant attendance; and the height of the water ought not to be more than a few inches above the level of the highest point of the flow pipe. One precaution in fixing the pipes can hardly be sufficiently attended to, and it is, wherever possible, to make the flow pipe gradually rise from the boiler to the farthest point, and to regulate the return pipe in the same manner. I have a small saddle boiler which heats a small plant house, a vinery, a stove, and two propagating pits, and the water can be made to boil in three-quarters of an hour; I attribute its efficiency entirely to the proper attention to the position of the pipes. The vinery and stove are both double-span, and contain more than 1000 feet of radiating surface of glass, which gives the boiler much work to do. The top of the boiler is not more than 4 feet below the highest point of the flow pipe.

From these remarks it will be seen I agree with the advice so often given to correspondents in your pages, that the best boiler for all practical purposes for small houses, and the cheapest, is a good saddle boiler, if it is properly set. The heat given to the brickwork round the boiler is by no means wasted, as it helps to keep up the heat of the boiler at night long after the fire is out. I agree, too, with those who condemn nearly all forms of tubular boilers, except those that have water jackets round them, and I feel convinced that no boiler is of much use where the flues require constant cleaning-out, or where the boiler is so set that it is not possible to clean them properly.

I believe Foster's boiler with a little alteration will be one of the best; but I still think, though I have not seen the conservative boiler, that for heating large quantities of piping an improved form of boiler has yet to be made; but for anything under 1000 feet a common saddle boiler will answer as well or better than almost any other, and the complex forms of tubular boilers, made on the idea of economising vertical heat only, are a step in the wrong direction.—C. P. Peach, *The Vicarage, Appleton-le-Street, Malton.*

Wellingtonia gigantea.—I forward you particulars of my best three Wellingtonias. No. 1, planted April, 1856, height, 30 feet 4 inches; circumference of branches, 54 feet 6 inches; girth of stem, 8 feet 6 inches. No. 2, planted 1857, height, 24 feet 3 inches; circumference of branches, 45 feet; girth of stem, 4 feet 10 inches. No. 3, planted 1859, height, 22 feet 6 inches; circumference of branches, 42 feet 6 inches; girth of stem, 4 feet 7 inches. All three are perfectly healthy, and have in no way suffered from cold or wind to which they are all exposed, especially No. 1, which is planted in the open park without any shelter.—J. Ridoway, *Fairlawn, Tonbridge.*

FRUIT-GROWING IN FRANCE AND ENGLAND.—No. 1.

When, some time since, I ventured to enter upon a few observations on the vegetable culture of France and England, or rather that carried on in the neighbourhood of Paris and London, I was not a little doubtful as to their reception. Statements had been very confidently put forward, and resting on apparently strong grounds, that we were lamentably behindhand, that we did not make so much out of our ground as our neighbours, and that we were continually importing from them what we ought to grow ourselves. Now, as I did not at all agree with these conclusions, I felt considerable diffidence as to the manner in which my opinions might be received; I was, therefore, very glad to receive from so many quarters approval of my statements, from persons who were thoroughly capable of forming a sound and unbiassed opinion, and this led me to desire to carry my observations a little further, and investigate the equally debated matter of fruit culture. When, therefore, I was about to pay a short visit to Paris in the past summer, I was requested by the Editors to examine the fruit culture in the neighbourhood of that city, and the results of that examination will be given in this and some following papers.

The plan that I adopted was this: I first of all made the acquaintance of M. Jamin, the eminent cultivator of Bourg-la-Reine, near Paris. I may, perhaps, best designate him as the "Rivers" of France; not with so lengthened a personal acquaintance as our veteran pomologist, but succeeding to a very extensive business, which had been founded and greatly increased by his father, one is able to see at his establishment examples in large numbers of the various systems of training adopted throughout France. Under his guidance I visited the garden of M. Charden at Chatillon, a most ardent amateur in Pear and Apple culture. I afterwards visited the garden of M. Nalet, of Brunoy, who likewise carries out the same culture to a very large extent. For Peach culture I went to the far-famed Montreuil, visited the garden of M. Lepère, and others; while on the general subject of supply I addressed myself, through the kindness of Mr. Solomon, of Covent Garden, to M. ——, Rue du Marché St. Honoré. So far, then, as to the French metropolis and its neighbourhood. In England I have availed myself of the kindness of Mr. Rivers, and visited and examined his world-renowned establishment; I also visited the extensive fruit gardens of Mr. Francis Dancer, at Chiswick; the gardens of the Royal Horticultural Society; the grounds of Mr. Myatt, at Deptford, and various private establishments where fruit-growing is carried on. It will, then, I trust, be conceded that if I fail in giving an adequate idea of the subject I have undertaken to write about, it is not because I have not gone to proper sources of information, or been chary about time or trouble; and if my conclusions be combated, I hope it will not be charged on me that I have drawn them in ignorance, or that because I may refer to what others may have said that I have copied from them, for this most amusing charge was, I understand, made in reference to my papers on vegetable culture. I can safely say that whether they be good or bad, the thoughts are my own, and that I have spared no trouble to arrive at correct information. How difficult this is may be inferred from the following simple fact:—Many persons have seen and wondered at the enormous Belle Angevine Pears, exhibited by Mr. Lewis Solomon, and marked eighteen guineas a-dozen. The ordinary idea is that they are grown in Algiers; but on inquiring at Covent Garden I was told, "Oh! no, they come from the south of France." They evidently do, because of their name. Well, when I was going over one of the fruit gardens near Paris, I was told they were grown at Belleville, in its neighbourhood; but lastly, when talking over various fruit matters with the first fruit merchant in Paris, and the correspondent through whom they were forwarded to London, I was assured, "Oh! no, they are all wrong; they are grown in Normandy." Like Sir Walter Raleigh, one might say, What folly to write anything when a simple fact is so difficult to verify.

What fruits, then, did it become me to inquire about? Certainly not forced fruits. On this point the French gardeners

are lamentably behindhand. Nowhere, except perhaps in a few places, such as the late Baron James Rothschild's, whose intercourse with England has led to the following of English practices, is the forcing of fruit carried out to any degree of perfection. Those grand private establishments where the owner prides himself on his Peaches, or his Pines, or his Grapes, are almost unknown in France, and Mr. Meredith and others have shown the foreigner that he cannot for one moment compete with the English grower. I went to see Fromert's, at Montrouge, but was struck with the comparative insignificance of the forcing, although he is distinguished as one of the chief "*primeurs*" in the neighbourhood of Paris. Who that visited the fruit exhibition of the International at Paris, but must have been struck with the poor display of Grapes that France could produce; while those grown on the English system by Mr. Knight were considered as marvels of cultivation. The out-door culture of Grapes is so small a matter in England, and so very uncertain in its results, that I do not see that any practical good could result from giving any detailed account of their cultivation in the neighbourhood of Paris. The same may be said of Figs. We are not, as a rule, "*Becceficos*," and no one would, as a matter of profit, enter on their cultivation. In Strawberries, I think, we entirely maintain our supremacy—in fact, it has only been of late years that any good-sized Strawberries were to be seen in the markets of Paris. The "*fraises de quartre saisons*," or Alpines, were the only Strawberries known; and even now the Alice Maudes and Victorias—in fact, all large Strawberries, are known in the halles as "*fraises anglaises*," while I have never seen anything like the British Queens and Sir Charles Napiers which one sees in London. There is no such cultivation of this delicious fruit as at Mr. Smith's, at Twickenham, or as there used to be at Mr. Myatt's, at Deptford. While I say this, I think we do not sufficiently value the little Alpines, of which there are some good new varieties, for often one can gather a dish of Strawberries from them when all other kinds are over. One has often been asked how it is that from April to October these little Strawberries are to be seen in Paris. The secret is simply that the earlier ones are produced at Montauban and other places in the south, then the centre of France supplies the markets, and afterwards the neighbourhood of Paris. This is one of the advantages that France possesses in having a territory that runs so far south, while its capital is in its more northern part.

It comes then, in fact, to this, that there are but three or four fruits about which anything can be said on looking at the respective fruit culture of Paris and London—the Apple, the Peach, and the Pear, and it is to these I shall confine my observations. There are one or two points which I should, however, like to say something about before I enter into this—namely, the climate, as affecting fruit culture, and the supposed greater love for and appreciation of fruit manifested in France. Neither of these questions must be lost sight of in considering this matter, as I believe the wrong conclusions which have been drawn arise from the unsoundness of the premises laid down.—D., *Deal*.

NATIONAL PROMOTION OF HORTICULTURE.

In the interest of horticulture, of which I am an earnest supporter, I offer the following remarks, hoping that wherein I fail, others may supply the deficiency. If I do nothing else but raise a discussion which may lead to future advantages to my favourite pursuit, I shall in myself be satisfied. If a more worthy or better-informed brother of the spade will come forward and carry out more fully the ideas here embodied, willingly will I give up my share in the proceeding, and work as a labourer where I would rather lead. I seek only the future welfare of horticulture and gardeners, and the benefit of the nation at large, at least as regards expense. At the present time we have many public parks and garden establishments kept up at great cost. I hail, indeed, with delight, as an ardent lover of the science, the great progress we have made in the last few years; but could not this progress be maintained at smaller cost, and with equal efficiency? I am led to these thoughts especially, from the debates on the items of the budget last session relating to the parks, &c., neither can I dismiss from my mind the fear that the funds hitherto granted may hereafter be refused to them.

Our parks and gardens have now either separate houses and establishments, or else are furnished at great cost by my friends (and I may truly call them so), the nurserymen. Could we not take a lesson from our neighbours the French, and have like them a Jardin Fleuriste to supply this want?

The next question is, Where shall we do this? I unhesitatingly reply, Kew. Already Kew is a great national institution, it is already public property, already maintained by an efficient staff, in a healthy spot, away from the impurities of London smoke, within easy distance of the London parks. Let it act as a threefold establishment—first, as a museum of plants; second, as a public rearing ground for plants for public works; third, as a college of instruction for young gardeners. Let us take these points separately.

First, as a museum. Let it be put on the footing of the British Museum; there everybody who writes a work deposits a copy. Let the same be done by those who raise or import new plants. Let a specimen be sent to Kew. Let the plants be tried for three or four, or more, years; should they then prove inferior, or should superior varieties be introduced, let them be discarded. Moreover, let a quarterly journal, illustrated by the best artists, and collections of all plants named in the letter-press, be published every quarter. On the subject of the form of the journal I will write further another time, should the idea receive public support. I have already broached the subject to many horticultural writers, but found from them that they demurred at the expense, and that the plan could not be remunerative; this would certainly apply to private individuals, or to a company, but not to a public institution.

Second, As a public rearing ground. A portion of the park at Kew could be devoted to this purpose, and I think if we copy our neighbours in France, the carriage of plants from thence to the parks need not cause us to fear for the safety of plants; so that being dismissed from our minds, we have only to look at the relative expense. I maintain one vast establishment would be kept up more easily than many scattered in the different parks. The present system need not be greatly changed, the Commissioners of Parks, Woods, and Forests, &c., would still be responsible. Under them the present heads and directors would still take charge of the various departments, and in addition be available as instructors and professors of the gardeners' training establishment, or, if you prefer it, college at Kew.

Dr. Hooker, the learned botanist and Director, might act as head, and assisted by the Regius Professors of Botany at Oxford and Cambridge, instruct gardeners in botany; the other Curators, such as Mr. Smith, at Kew; Mr. Gibson, of Battersea Park; and their worthy collaborateurs, could each lecture on the different branches of horticulture, one say take fruit, another vegetable, another sub-tropical, another stove, culture, and so on. Besides this, amateurs, gardeners, nurserymen, and other competent horticulturists, could from time to time be added as lecturers. These combined would also form the council to decide on plants to be retained or discarded.

I appeal with confidence to all classes. First, to nurserymen. The fact of sending specimens to the museum would no more injure your trade than the British Museum does writers and publishers; it would, in fact, prove your copyright to the various plants, and not being a place for sale, but only a public institution, could not affect your trade. Moreover, from maintaining only the best qualities of plants, you could clear your catalogues of many that you yourselves consider worthless varieties, and enable you to devote more time and space to the cultivation of the superior.

I appeal to the country at large, and our legislators in particular, could not efficiency be maintained by this plan at less cost? We should have, moreover, a public institution and monument of skill such as no other country can show. Our gardens and parks would be open to all as they are now, to rich and poor alike. Gardeners could gain instruction. Examinations could be held in connection with the teaching staff, and men sent out into the world capable of undertaking any branch of their profession.

I offer these few incoherent remarks, as I believe and hope, for the benefit of our art; let abler hands now lay aside the spade, and take up the pen in the cause.

Before concluding, I find I have omitted referring to the journals and societies that might consider their interests affected. First, the societies would still hold their shows, and give prizes for good productions, totally unaffected by my proposal if carried out, inasmuch as no show and no prize would be given at Kew more than there is now. The journals would be unable to give the information that would come from this establishment, and would still be as eagerly bought and read as

now. — A Wigtonshire Laird, and an Old Friend of the Journal of Horticulture.

[The scheme shadowed forth in this communication is a good one, but some of the details and the mode of carrying them out are open to grave objections. The portion of the scheme which we consider unexceptionable, is a great central school of horticulture, where lectures would be delivered on the theory and practice of horticulture, botany, and other natural sciences bearing upon horticulture, and this we hope some day to see realised; but before anything of this kind can be carried out perfectly, we must set about initiating a system of instruction in our primary schools, which shall prepare the masses of the population to benefit by that which may be obtained in a great central school. In Germany, Switzerland, and France, this is already done; but in our "land of liberty," everybody talks and does as he likes, without regarding his neighbour's or the national need. There is so much talk, and so little result.— Eds.]

GLAMIS CASTLE, FORFARSHIRE.

The Seat of the Earl of Strathmore.

Until the holding of the Great International Horticultural Exhibition in Edinburgh, in September last, how few amongst the thousands of the readers of this Journal knew anything of Glamis and its magnificent gardens! Historically acquainted we may have been with the name, as one of the most ancient castles in Scotland, as well as with that of its noble owners, the Earls of Strathmore, whose names are intimately associated with their country's history. Glamis, however, and its noble owner, are new additions to horticulture; but young as they may be, they have already attained a position high and honourable in the gardening world. Few finer kitchen gardens, or better examples of Grape cultivation, have we to see than at Glamis, and no more generous and ardent patrons of horticulture have we to admire and honour than the noble and ancient house of Strathmore. It is a pleasant duty, then, to tell our readers of this new accession, and to make them acquainted with what has been done in this northern situation during the past four years, and with what is now to be seen in gardening at Glamis Castle.

Travellers by the Caledonian Railway between Perth and Aberdeen, may remember Glamis station, twenty-four miles north of the "Fair City," as one of a series attracting the attention of the most careless passenger by their neat and trim appearance, their pretty gardens, and brilliant display of flowers, examples which we should like to see imitated elsewhere, but which we are sorry to see are now somewhat neglected even here. A walk of a little more than half a mile will bring us to the gates of Glamis, and another of nearly a mile to the Castle itself. Here, then, is situated the subject of our notice, in one of the richest and most fertile valleys of Scotland, familiarly known as the "Howe o'Strathmore," celebrated for its high-class farming, and vieing in some places with its neighbouring district, the famous Carse o'Gowrie itself, in its Apple orchards. To the north, a few miles distant, rises the mighty chain of the Grampian mountains, thus forming a fine natural shelter from the bleakest winds. The whole district is of a finely diversified character, the surface gently undulating, well wooded, and watered with the downward mountain streams, and with a soil, pure and fresh, of a rather light and sandy nature, yet rich and easily worked. Thus there are few places to compete with Glamis in the way of natural advantages.

The Castle, which dates from A.D. 800, is a splendid example of the old Scottish baronial style, built of a reddish stone, and it is still inhabited, still the residence of the family, which very few of the ancient castles of Scotland now are. There are many much more handsome-looking new edifices to be seen, and with much greater pretensions. New buildings may, however, be seen any day, but very seldom an ancient one like this, which can compare in its interior comforts and conveniences with the best of our modern mansions. How well the art of building and architecture must have been understood in those bygone ages— ages on which we fancy we have made such vast improvements! Yet in this one art we are immeasurably inferior. A great many of the old castles in Scotland are very models of ugliness, mere piles of stone and mortar, with loopholes for windows; Glamis, however, although it is so very old, has even a modern and comfortable look about it.

Surrounding the Castle is the park, of upwards of 1000 acres, in which are some fine trees, of Ash and Oak especially; the former, near the Castle, about as fine examples as any we have ever seen, with trunks nearly 3 feet in diameter. There is not much here in the way of pleasure ground or ornamental gardening to attract notice; the gardens proper being quite a distinct establishment, about half a mile distant, on the opposite side of the river Dean, a swift mountain current dividing that portion of the policies with the Castle, park, and pinetum, from the kitchen and flower gardens, whither we shall now proceed.

The gardens at Glamis, as already stated, are entirely new. It is only about four years since the present Earl succeeded to the title and estate, and the first work entered upon was the formation of the gardens. How different this from a great majority of cases, where the gardens come last in the scale of improvements! The old garden being entirely worn out, a new site was selected, and none more favourable could have been chosen. Well sheltered by neighbouring woods, and sloping to the midday sun, on the brow and side of some ground rising somewhat above the surrounding level, the situation is all that can be desired. The work of construction and formation having been entrusted to Mr. Fowler, of Castle Kennedy, who as a gardener and cultivator has already reaped high honours, we have here a specimen of his skill in the formation of gardens, and we feel bound to admit that the task has been well and ably performed, and the kitchen gardens at Glamis can now take their place as equal to the best in Scotland.

Conspicuous as the first object in view on coming to these gardens, conspicuous also by its elegant and handsome appearance, is the gardener's house. Here it forms a pleasant feature of the place, and occupies the most prominent position, as it undeniably should do; yet in how many instances do we not find the house of the gardener hidden away in some of the back slums, as if it were an eyesore, and he and his family a sort of nuisance on the place. The gardener's house at Glamis is worthy of its tenants, and a credit to its noble owner. It is pleasant also to tell how much of this is due to the wishes of Lord Strathmore himself, who took a lively interest in the whole proceedings, but more especially in this. Thus said his Lordship one day on meeting Mr. Johnston, the very able gardener here, with the architect. "We have a very important matter to settle to-day, and that is to select a site for your house. You would, I suppose, like it close to the gardens, to be convenient; it ought also to be in a free and airy situation for the health of your family, and in a position whence you could have a good look-out." The site selected is in all respects excellent, just outside the north-west corner of the gardens. To the front there is a beautiful view outside along the western wall of the garden, with the walks leading direct to the Castle in the distance, of which a view is also obtained. On the other side the eye takes in that part of the garden between the two ranges of houses where are the Pine pits, &c., and the young gardeners' rooms, which last are not the least deserving of notice. Here pains have been taken to make them comfortable, pleasant, and commodious; sitting-rooms and bedrooms, &c., being provided for all, with every convenience that could be desired.

We shall, before entering into general details as to cultivation, &c., take a survey of the general plan and arrangements of the gardens; we think we shall be best understood thus. To begin at the north, the form being that of an oblong, we have first a splendid range of three-quarter span-roofed houses, eleven in number; those in the middle of the range, the show plant house, being much higher, wider, and altogether larger than those at the two extremities. The latter are devoted, the first four on one side to Melons, Cucumbers, and pot Vines, and the other to Figs; then on the opposite side, the first two are plant houses; then there is a propagating pit, and a Pine stove, the two centre and largest houses being for Camelliaa and greenhouse plants. This is a fine useful range, only we are inclined to object to the mixed character of the houses. Fruit houses and plant houses should, we think, be kept as separate as possible. In a small place this cannot well be done, but in a large place like Glamis no such difficulty could occur. To the front of this range there are four brick pits in two ranges of about fifty lights each, two only of which are heated; and facing us against the north wall of the kitchen garden, in one long line, are the young gardeners' rooms, seed rooms, fruit rooms, Mushroom house, tool sheds, &c., all in first-class order. We enter by a door in the centre, and to the right and to the left, broken only by the gateway in the centre, we see a magnificent line of lean-to houses extending to a length of 410 feet, in ten divisions. The centre four houses are 22 feet in width by 18 feet in height at back, the other six being 20 feet wide by

16 in height. Truly a noble range! The first houses on each side are plant stoves; the second on the left is for Muscat Grapes; the third for early Grapes; and the fourth and fifth are Peach houses. On the right, the second house is a mixed vinery; the third is for late Hamburgh Grapes; the fourth is a late vinery; and the fifth is an intermediate Peach house. This, then, is the extent of the glass structures, to which we shall again allude more fully.

To the front, then, of this last magnificent range of hothouses lies the kitchen garden, which within the walls occupies an area of about four acres, with about two acres additional outside the eastern boundary wall. The shape of the garden is that of an oblong, bounded on either side by substantial brick walls, about 10 feet in height, the northern one, as just stated, being covered with glass. Along the front of the houses is a splendid wide border for the Vines and Peaches, and from this point the ground slopes gently to the south. When standing on the centre of this top walk in front of the houses, a pretty picture is before us. Leading from the top, straight through the centre of the kitchen gardens, is a fine broad gravel path, with pretty borders of flowers on either side, planted "ribbon fashion," the pretty colour of Viola cornuta telling to much advantage, and it is seemingly a plant well suited for the place. Another walk from west to east, crossing this at right angles, is made similarly ornamental. Round the walls there are the usual borders for early vegetables, &c., and on the walls very good young examples of fruit trees, such as Pears, Apricots, Plums, Cherries, and Apples. To the training and nailing of fruit trees on walls considerably more attention is paid in most gardens in the north than in the south. The same form of training it may, however, be observed is adopted for every species of tree—viz., the fan-shaped, which, although it may be exceedingly well adapted for such as Plums and Cherries, is not at all well suited for the Pear. The vegetables in the various quarters were all in first-rate condition, with scarcely a weed to be seen. Everything here, indeed, is so neat and trim, and the work finished off in such an orderly style, that to walk in a vegetable garden like this is a pleasure.

Outside the bottom or south wall of the kitchen garden runs a parallel terrace walk, with a pretty ribbon border of flowers. Here the ground slopes considerably in its natural condition to the banks of the river, which runs along at the bottom. This sloping portion has, therefore, been converted into a number of short steep terraces or banks, with a level space about 80 feet in width at the bottom, where a very pretty geometric flower garden is laid out. We must say we are not much enraptured with the style of these terraced slopes; they serve to remind one irresistibly of earthworks or fortifications. We admit the difficulty of dealing with the ground in this case in a more tasteful manner, owing to the confined space. The central main walk leading through the kitchen garden is continued in a straight line, through these terraces and the flower garden, on a steep slope to the banks of the river, which is crossed by a pretty bridge, and beyond which is the pinetum, leading up to the front of the Castle. The pinetum, although of good extent, owing to the specimens being as yet quite young, presents no feature worthy of particular notice.

(To be continued.)

GLADIOLUSES FOR SMALL GARDENS.

I was much interested by the very sensible remarks of your correspondent who hails from Chester-le-Street on this point, and it is because of this interest that I venture to suggest to him that he might do a little better in his selection of the varieties that he intends to invest in for this season. Four of those he has named are excellent; but I would alter every one of them, and would make my six to be Adolphe Brongniart, Shakespeare, Meyerbeer, Thomas Methven, Ulysse, and Madame Furtado, and these, I think, would cost about the same as those he has mentioned. I would substitute Shakespeare for Princess Mary of Cambridge, because I believe it to be a better-constitutioned flower and a model of a spike. If, however, the exhibition he has in view be late, then I would take another white, Norma, as Shakespeare always blooms early. Milton is a very imperfect flower; the individual blooms or pips are too far apart, and it very rarely shows a full face. Meyerbeer is a splendid flower, brilliant in colour, and as a spike there is no Gladiolus to beat it. Then Ulysse is, both for colour and form, one of the very best of our more recent flowers. I venture to think that your correspondent will find this a better half-dozen than those he has selected. I do not quite agree with him as to the soil, but if he has succeeded, why then by all means let him go on with it. Such freaks as he complains of in his bulb of Stuart Low are to me utterly inexplicable; I have met with them in my own garden, and believe the best plan would be to replant the young bulbs as they come up without removing the old corm, and let them take their chance.—D., *Deal*.

GROWING CELERY IN BEDS.

I for one very willingly respond to the request of your Welsh correspondent, "W. T.," page 378, and state my experience on this, to me, very satisfactory mode of Celery-growing. Like "W. T.," I have a large family to supply from a small garden, and this is the system which enables me to meet the demand for this particular vegetable, and gives me land, which by the single-trench plan it would otherwise occupy, to produce in increased quantity supplies of other requisites.

I have frequently heard pooh-poohed by gardeners the plan of growing Celery in beds; they have tried it and failed, and without trying again have condemned it. The first time I tried it I failed, but I remembered the old saying, "that nothing beats trying but doing;" I went on again and succeeded, as I am sanguine "W. T." will do in his very next lesson.

In every case of failure which I have investigated, I have found the cause to be the same—viz., the selection of sorts not adapted to this mode of culture. "W. T." has split on the same rock. With a foot of good manure and good after-attention, half his crop is comparatively worthless. With less than half that quantity of manure, and very possibly less after-attention also, I may safely assert I have not ten heads out of a thousand but that would satisfy the most fastidious Celery connoisseur.

The Celery is grown in beds, and is the fourth consecutive crop off the same plot of ground. The variety is Turner's Incomparable (true). My beds are 4½ feet wide; they are thrown out early in spring about 9 inches deep, and 3 or 4 inches of rough leaf mould and decayed vegetable mould are then wheeled in. At the end of March, or when the weather is suitable, they are filled with bedding plants planted 4 or 5 inches apart—Calceolarias, Verbenas, and Petunias; indeed, most plants from seeds and cuttings which are required for the flower garden. These are sheltered by canvas or mats, &c., and turn out in fine condition at bedding-out time. If not required for this purpose, the beds will give a valuable crop of early Potatoes, which are worth the little protection, and are always acceptable. I do not mention this method because there is anything novel in it, but because there is something good in it. I have tried it year by year for protecting flowers and vegetables, and in the absence of more elaborate contrivances, I find it answers well, and is worthy of more general adoption.

Before planting the Celery, manure, to the depth of about 5 inches, is spread in the trenches; not rich, rank stuff, but sweet and well-decayed manure, and vegetable refuse also well decayed and friable. Rich, fresh manure grows plenty of stuff to trim off for the rubbish-heap; cool sweet manure produces the quality which is esteemed at the table. I plant a foot apart all ways, and have four rows in each bed. Copious supplies of water are given, occasionally liquid manure, about once a-fortnight, and previous to watering I give a good sprinkling of common salt sufficient to whiten the ground. This I believe to be of paramount benefit, and to this more than anything else I attribute the excellent quality of the Celery. I have never used it so freely as I have this year, and have never had so satisfactory a crop.

The Celery fly (Tephritis onopordinis), which is often so destructive, I combat with soot. As soon as I see the first blister, the plants are kept thoroughly blackened for a few days. The Celery seems to enjoy this as much as the fly detests it. It should be applied, if possible, when the dew is on the leaves. The soot is of no use as a cure when the grubs have become established; it is solely a preventive, and if not applied in time is useless except as a manure.

I do not earth-up on the little-by-little system, but permit the plants to attain their full size, or nearly so, and then make almost a finish of it at once. If I were asked why I like this plan better than gradual earthings-up, I should reply, Because I have given both plans many and fair trials, and I find the one-earth system answer far the best. This year half a dozen plants bolted soon after being planted out, and I knew the

reason; with this exception I can honestly say that I have not had one bolted head a-year for at least the last four years. I tie up every plant with a bit of rough matting some weeks before earthing-up; this being done, the work of applying the earth is quickly executed. I know some object to this separate tying, on the score of its taking up too much time; now I have often more work and less time to do it in than I like, and that is one reason why I adopt the plan. I find tying is the quickest as well as the best, computing the time by either one man alone or two jointly. The tying should be done loosely, so that the tie can be slipped upwards as the plants advance in height. Of course, the plants are kept as free from suckers as possible.

A primary cause of Celery rotting is deep planting. The only real advantage gained by planting deeply is the saving of ground between the beds or rows. The early crops may safely be planted deeper than the late ones, as they will be off before the heavy fall of winter's rain. In wet soils it is advisable to plant the crops intended to remain in the ground throughout the winter quite on the general level of the ground. This precaution, and earthing-up when the plants and soil are quite dry, will generally prevent rotting.

An error in Celery-growing common to young gardeners is often made at the very outset, in sowing the seed too thickly, and coddling-up the seedlings in pots or pans, as if they were Mustard and Cress for salading.

For the main crops the first or second week in March is early enough for sowing. A gentle bottom heat, rich light soil, and scarcely any top heat, with thin sowing, are essentials in laying a good foundation for a flourishing plantation. A few barrow-loads of leaves in a sheltered place, and a hand-light or old sash are far before sowing thickly in pots in frames, with after-moving about to harden the plants off. The bottom heat to my seedling bed is from a flue which passes from one house to another, just covered with a light sash; nothing can answer better.

Another error which I will just note, is in planting too deeply. In planting, the collar of each plant should be as much above the soil as possible, otherwise it will be almost an endless job keeping it free from suckers, which the Incomparable produces so profusely.

Such is my experience on Celery-growing. Summed up it stands thus—that the bed plan suits me better than any, and the Incomparable Dwarf White suits the bed plan better than any. It gives more heart, according to size, than any sort I am acquainted with; it will come in as early as I require it, and will continue in use as late as any other; it takes little ground and little manure; in a word, it yields a maximum amount of good quality with a minimum expenditure of power and material.—J. W.

MUSHROOM CULTURE IN AN OUT-HOUSE.

This is in reply to queries from "M. McD." In a wooden house, 12 feet long, 8 feet wide, 7 feet high at back, and 2 feet high in front, you could grow Mushrooms at any time, if you could keep them cool in summer, and warm, by covering, in winter. For ease in the management of such a house, we would have a 2-feet path down the middle, and a 3-feet-wide bed on each side, which would be best done by having two boards along the passage, say 10 inches wide. The bed next the front might be 18 inches deep next the wall, sloping to the board. That at back could be deeper next the wall, or, if you chose, you might have two beds there instead of one, placing one above the other. The first plan would be the simplest, and would cost nothing for shelves. In such a case that bed might be 2½ or 3½ feet deep at the wall, sloping to the board in front. The first question, therefore, may be considered answered.

The preparation of the material of the bed will depend on its nature. If the latter be longish litter and droppings, it will require to be fermented and so much decomposed as to build rather firmly without heating violently. If chiefly droppings, if thrown together for a few days and then built firmly together, they will not heat violently. We generally mix with such about one-fourth of fibrous dry loam, as it firms the mass and prevents violent heating, and the less the manure is exhausted the better will the Mushrooms be. We have had fine beds made by a bottom of tree leaves and litter, and 3 or 4 inches of rather fresh horse droppings on the surface, adding the latter when the heat of the former was on the wane. The great point to attend to, is not to insert the spawn until the heat has gradually come down to 80°, and is slowly declining. Then insert the pieces of spawn about 8 inches apart, and so as to be covered. Let the bed alone for a few days, but if it become much warmer take the spawn out again. If the temperature is about blood heat it will be right; if it decline rapidly ten or more degrees, add 1 inch of horse droppings and beat again. If the temperature keep at the proper degree, add from 1½ to 2 inches of good soil, beat smooth, and after this if the trial sticks seem to show the temperature of the bed is sinking, add a covering of hay or litter. From 70° to 75° or 80° is a good temperature for the bed; from 55° to 60° is a good heat for the surface of the bed to be.

As regards the time the Mushrooms will be ready for market, if all go well Mushrooms may be expected in six or more weeks from the earthing-up. If they come much earlier the bed seldom produces so long, as they have had rather more heat. In this respect, under the best treatment, Mushrooms are variable as to their yielding time. In a hurry, we have had them in a month or less. We have had fine crops that did not come under ten or eleven weeks.

This is a good time for making preparations for beds, only autumn and spring are better for drying and mixing the materials a little. If even droppings are too wet they heat violently, and thus their nourishing properties are dissipated.

Besides the covering for keeping the heat in the bed, in very severe weather you might place hot manure in the pathway, and turn it over to produce a little steam in a very cold morning.

We can say nothing decisive of the quantity you could gather from such a house. As to the time of gathering, that must be when the Mushrooms are large enough, whether wanted full grown or as buttons. A much greater number of the latter can be gathered than the former. No Mushrooms should stand after they come to their best, as a few black-gilled ones will exhaust the bed more than a number not quite full grown. The mere period of gathering, morning or evening, is of no moment, but, as a rule, the nearer to the time of cooking the better. Mushrooms standing in baskets in a market are very different from the sweet-scented, juicy Mushrooms just taken from a bed.

We warn you against being too sanguine as to the market returns, until you buy experience by practice. We have, it is true, seen splendid crops in stalls of a stable which were not wanted, and that, by receiving from us fewer details than here given, but we have known other cases in which the owners of similar places professed to follow our directions to the letter, and yet proved very unsuccessful, though the material was equally plentiful in both cases.

ROYAL HORTICULTURAL SOCIETY.

Scientific Committee, *November 16th.*—W. W. Saunders, Esq. F.R.S., in the chair.

The Rev. M. J. Berkeley exhibited some Walnuts, in which the outer rind was completely blackened and shrivelled by frost, the nut in the interior being unaffected. Mr. Glaisher remarked that during winter the temperature of the atmosphere was usually considerably warmer at a level of 20-50 feet above the surface than at a lower altitude. He expressed his opinion that the peculiar appearances presented by the Walnuts were due rather to dryness of the atmosphere than to actual frost. Professor Austed called attention to the effect of wind in blackening the leaves on one side of a tree, while on the unexposed side they retained their green colour. The Chairman stated that an illustration of this fact might recently have been seen in Somersetshire, where the trees for a distance of thirty miles or more were thus affected.

Mr. A. Murray then alluded to a peculiar beetle preying on the foliage of Orchids introduced from widely diverse countries.

Dr. Masters, on the part of the sub-committee appointed to watch the progress of the plants in the experimental ground at Chiswick, exhibited a series of diagrams showing in a graphic form the relative degrees of vigour exhibited by the plants at the various dates of observation, and the fluctuations in the intervals between them. Similar tables had been prepared showing the amount of heat and rainfall during the entire period of observation, and the fluctuations in the intervals between each separate observation. Detailed notes on the condition of the plants were also laid on the table, and will probably form portion of a full report at some future time.

The most striking results shown in the diagrams were as follows:—In almost every case the plants in the unmanured boxes were the least vigorous. The application of purely mineral manures was productive of little or no result in the case of the Grasses, but was much more effective in promoting vigour in the case of the Clovers. A striking contrast was exhibited in the case of almost all the twelve separate

kinds of plants treated with ammonia salts, or with nitrate of soda respectively. It was shown in Dr. Masters' tables that almost invariably when the plants treated with ammonia salts manifested an increased degree of vigour, those treated with nitrate of soda showed a corresponding decrease. These contrasted fluctuations occurred at a time when the weather tables showed a high rainfall and a decreased temperature. Similar antagonistic results, but manifesting themselves at a later period, when the temperature was higher and the rainfall less, prevailed to a less extent in the boxes manured with a combination of mineral manures and nitrate of soda, and of mineral manures and ammonia respectively.

Dr. Gilbert remarked that the experiments, as conducted this year, were serviceable rather as indications of what to avoid in the coming year, than for any immediate use at present. The soil made use of was too fertile, and in consequence the plants made undue growth. The contrasting conditions alluded to by Dr. Masters probably depended on variations in the relative power of diffusion of the several salts, and the range of the roots. Nitrate of soda was distributed with great rapidity. The ammonia salts were converted into nitrates before absorption by the plant, and were thus distributed at a lower depth. Dr. Voelcker corroborated Dr. Gilbert as to the necessity of caution in drawing general inferences from this season's experiments, and advised that in future the plants should be grown in pots, so as to be more under control, and less subject to disturbing influences. Mr. Glaisher alluded to the effects produced by the roots of plants in increasing the temperature of the soil, and suggested that a thermometer should be inserted into each of the seventy-two boxes. These thermometers, moreover, should be made with great care, and the mercury in all should be derived from the same source, so as to secure uniformity of expansion.

A report from Mr. Barron on various experiments that have been carried on as to grafting on various stocks, was then read. The results had been very varied, and were of a very interesting character. In those cases where failure had resulted the want of success was attributed to one or more of the following causes:—Imperfection in the mode of operating; the too advanced condition of the stocks or of the buds before the operation: the want of correspondence in point of time between the growth of stock and scion, &c.

The following communication on the culture of Aloes, forwarded by Dr. Hooker, was then read.

In the cultivation of Aloes it is as well to bear in mind that they grow equally well with or without roots. There is scarcely any perceptible difference in the time required for re-establishment, between an Aloe carefully dug out of the ground with all its roots, and a rootless branch that has been broken or chopped off; both are at times liable to damp off or decay at the root.

Aloes are found growing in all kinds of soil,—rich alluvial soil, leaf mould, red clay, yellow clay, hard limestone soil, brash soil, sandy soil—in fact, every description of soil that occurs in South Africa has its Aloe or Aloes, provided always that it is rocky; for, as far as my observation extends, they do not grow where there are no rocks, neither will they continue to thrive for any length of time if they are planted in such localities. I attribute the great mortality among garden Aloes to this fact; it is not because the soils are unsuitable, for, as I have before stated, they will grow in almost any description of soil, if it be rocky.

I would therefore advise all who wish to cultivate their plants successfully, in the first place to excavate a moderate-sized hole—say, from 1 to 2 feet in depth and breadth, according to the size of the specimen they are intending to plant; fill this hole with rocks, allowing some of them to project out of the ground (these should, if possible, be ornamental); then plant the Aloe amongst the rocks, fixing it in an upright position until it is found to stand alone; then fill up the interstices with soil—any moderately good soil will answer the purpose. Do not be too liberal in the supply of water, especially at first; if the soil is moist, the Aloe will require no water at all.

After some time has elapsed, if the plant is found to be looking red and unhealthy, its root should be examined, for it may have decayed; and if this is the case it should be taken up again, and the decayed parts carefully removed or cut away, until you arrive at the sound and healthy part of the stem. The Aloe should then be placed in the sun for several days (if the specimen is large and succulent, for several weeks) to dry and harden before it is again put into the earth. It does not follow that the plant should be altogether lost because it has decayed at the root, for Aloes may be planted again and again, "even until seventy times seven," always taking the same precautionary measures.

Moreover, it will be found that Aloes will sometimes decay at the heart, or from that portion of the stem from whence spring the young growing leaves. This may be from two causes—viz., water lodging amongst the too-crowded leaves, or the larva of some insect that feeds upon that portion of the plant. An Aloe thus affected should have the greater portion of its leaves removed, and the diseased parts cut away, and the wound carefully washed and dried, after which it will soon be found that the plant will recover, and either grow again from the centre or shoot from the side.

Aloes should not be watered often nor at stated periods, for the climate of South Africa is extremely variable, and subjected to great vicissitudes, and in their wild state they are unaccustomed to a plentiful and regular supply of water. They endure long seasons of severe drought, a burning summer sun, or a scorching north wind; and, again, at other seasons they are deluged with torrents of rain, for such is the variability of the climate they inhabit; but from the construction of their leaves and roots, there is no succulent plant better enabled to endure these great changes than the Aloe, for in rainy seasons they extend every leaf and branch with moisture, and this supply is carefully stowed away, to be absorbed by degrees, in times of drought and scarcity, according to the requirements of the plant; and from this store of moisture the whole of the blossoms and seeds are frequently supplied with nourishment, which supply is obtained from the large succulent leaves of the plant, which then become red and attenuated.

Aloes should never be pruned or trimmed in any way whatever. The old leaves which accumulate beneath the large green ones, form a protection to the young growing stem, and if left to themselves they assume an oval-shaped mass of grey and hoary-looking dried foliage, which forms an excellent contrast with the green leaves above, giving the Aloe its peculiar and picturesque appearance. Moreover, the removal of this mass of old leaves frequently results in the death of the plant, which is much to be regretted.

Many of the dwarf species of Aloes are becoming much more rare within the colony than they formerly were, for I am sorry to state that Aloes, like many other succulent plants, are fast disappearing within the boundary of the colony. The sheep and goats are doing for this country what the goats did for St. Helena, rapidly altering the nature of its flora and pasture lands, and causing many plants to disappear before their destructive ravages, for in severe winter seasons, when there is a scarcity of grass, these animals are in the habit of browsing upon succulent plants, and even the bitter leaves of the Aloes are eaten with avidity.—M. E. Barber.

The Chairman remarked that the rocky nature of the country in which Aloes grew, was serviceable in preventing excessive or long-continued moisture. He had ascertained from Mr. Cooper, that many of the Haworthias grew naturally closely environed by herbage, and that when this was eaten by the sheep, the plants became unduly exposed to the sun, and died in consequence, hence the sheep were only indirectly injurious (not directly, as Mr. Barber had stated), by removing the herbage. Mr. Saunders in practice substituted a fold of thin paper or muslin for the grass, and thus tempered the light, to the great advantage of the plants.

A report from Mr. Moore on the experiments carried out at Chiswick with various chemical manures on Variegated Zonal and other Pelargoniums, with a view to ascertain the effect of the manures on the coloration of the leaves and the production of flowers, was then read. The following is an abstract from Mr. Moore's report:—

"At the suggestion of Major Trevor Clarke some experiments were commenced in July last at Chiswick, with the view to ascertain the effects of certain chemical manures on the colouring of the leaves of Variegated Zonal Pelargoniums. A set of ordinary bedding Pelargoniums was also treated in a similar way, for the purpose of noting what would be the effect of these particular manures as regards the development of flowers. The experiments were on a limited scale, and their results have so far proved to be little more than negative—partly attributable perhaps to the late period at which they were commenced, and partly to the soil employed having been of too rich a quality. As, however, there were indications of differences observable, it is proposed to repeat the experiments under somewhat different conditions another year, in the hope of bringing these out more definitely. The varieties selected for the experiments were:—*Variegated Zonal*—Mrs. Pollock, of which there were six plots, each containing four plants. *Flowering Zonals*—Herald of Spring and Norah, of which also there were six plots, each containing three plants of the former variety, and one of the latter variety. The plots, which were prepared and planted July 1st, were each 20 inches square, cut off by sinking four slates, the soil being prepared 12 inches deep. They were treated with the same kinds of manure, and used in the same proportions as those employed in the series of experiments with grasses and other pasture plants now in progress, the manures having been kindly furnished by Mr. Lawes and Dr. Gilbert. It would appear that, in general terms, the unmanured soil, and the soils prepared respectively with a mixture of ammonia and mineral manures, and with a mixture of nitrate of soda and mineral manures, gave the best results; whilst the results in the cases of the soils prepared respectively with the mineral mixture only, and with the ammonia only, were the least encouraging; and that wherein it was treated with nitrate of soda alone gave the least development, and seemed to favour compactness of growth. It is proposed another season to extend the experiments over a larger area, adopting pot culture of the plants (grown in duplicate) as admitting of an earlier commencement being made—namely, at the period of the first spring shift, when but little development has taken place, and also as permitting of a greater variety of treatment within possible limits."

A lengthy communication on the cultivation of Tea by Mr. McPherson was laid on the table, on which the Secretary was instructed to report to a future meeting.

Dr. Masters exhibited, on the part of Mr. D. T. Fish, a sample of soil in which there was a thin layer of lime about 6 inches below the surface. This had evidently been put on as a top-dressing. Mr. Fish attributed the position of the lime beneath the surface to an annual superposition of a layer of carbonaceous matter on the surface, and to the decomposition of the roots. He advanced this view in opposition

to that of Mr. Darwin, who attributes similar effects to the agency of worms. Dr. Voelcker remarked that lime so applied was always washed down gradually in the manner described.

POMOLOGICAL GLEANINGS.

About the end of last September Messrs. Rivers sent to Covent Garden a rather considerable quantity of Reine Claude de Bavay Plums. They were large, covered with a whitish bloom, and excellent in quality. They made the high price of 24*s.* per bushel, reminding one of old times, when Green Gages made 21*s.* per bushel in some seasons. The above Plums were gathered from pyramidal trees imported from Monsieur Bavay of Vilvorde, who had the property of the sort. This variety is not likely to succeed as a standard or pyramid except in the warm counties of England.

OUT-OF-DOOR GRAPE CULTURE—WINE MANUFACTURE.

(*Continued from Vol. XVI., page* 409.)

I gave the details of wine manufacture quite sufficiently, I hope, in No. 420; still, in papers treating on out-of-door Grape culture, for me not to say a special word about making Grape wine would appear like a representation of the play of Hamlet with the Prince of Denmark nowhere.

Last year was an exceptional one for the early ripening of out-of-door Grapes. Now, on the 28th of October the ice on the pond would bear the ducks, and soon after snow was upon the ground, and a north-east wind had been blowing for I forget how long; nevertheless my Espiran Grapes against the walls of this house coloured well, were plump, and ripened, and the Royal Muscadines against the garden walls also flourished. I never gather Grapes until literally obliged, on account of the enjoyment I feel whilst viewing their bountiful clusters as they hang, richly ornamenting our ugly Oxfordshire stone. Some people, however cold the weather, will sit shivering, or wrap themselves up in blankets, rather than light a fire in the grate before Michaelmas-day; others will not dig up their Potatoes until after that period, whether it involve the rotting of the tubers in the ground or no; and a good many estimable people, to my knowledge, will insist upon cutting their out-door Grapes on the second Tuesday in October, even should they prove but half-ripe, thus entailing upon themselves extra trouble in being scarcely able to dispose of them at a gift, when, if they had left them hanging on the Vines a fortnight or three weeks longer, most probably an excellent lot of Grapes just in right order for wine-making, as well as sundry bunches fit to eat, would have rewarded them for their forethought and patience. So let those who read this take notice of what I said about the manufacture of Gooseberry and Rhubarb wine, it will serve their purpose just as well for making Grape wine, merely taking care to allow one-third of water to two-thirds of Grape juice; also, when bruising the fruit, not to pound with sufficient force to crush the pips, as they would then impart a harsh disagreeable flavour to the wine. Discard honey, for I find it gives a flavour of mead; and do not use red argol or tartaric acid.

Now, presuming my readers to be up to this point in possession of the information that they will require, I will add a digest of my proceedings when making Espiran Grape wine last year; further stating that in the other Grape wines which I made—namely, Royal Muscadine and Muscat of Alexandria, my manner of going to work was, and is to be, precisely similar.

Digest.—1868, October 8th. Gathered Espiran Grapes; weight 450 lbs.

October 9th. Picked those thoroughly ripened from the bunches into a pan by themselves, crushed them, and the saccharometer floated in the pure Grape juice at 17°. Added 4 gallons of water to the juice in the pan, and the saccharometer then floated at 10°. October 10th, saccharometer 11½°; October 11th, 13°; October 12th, 12½°; October 13th, 12°. Pressed off, and it ran 17 gallons. Put 2 gallons of water at a temperature of 80° to the strained-off skins, mixed up well, and pressed it off; the saccharometer floated in this at an indication of 8°. Put a gallon of it to the 17 above, and the saccharometer indicated rather under 12°. Then added 50 lbs. of loaf sugar to the quantity, and when the sugar was quite dissolved the saccharometer floated at 44°. Covered over the pan with an old piece of carpeting in a temperature averaging 60°.

October 14th, saccharometer 47°; October 16th, 43½°. Put into cask in the cellar. November 6th, the saccharometer at the bunghole indicated 26°; November 17th, 20°; November 30th, 19°. Racked and sulphured barrel; filled and fined immediately.

December 26th, saccharometer 18°. Plain-racked again.

1869, January 30th, saccharometer 12°; April 12th, 9°. Dissolved about 2 lbs. of loaf sugar in 2 quarts of the wine, passed it in at the bunghole of the cask, and it brought up the saccharometer's indication to 11°.

September 17th, saccharometer 10°. A bottle of this wine, as drawn from the cask, was taken to the Royal Horticultural Society's meeting at South Kensington on the 21st of September. It was reported on at page 244 of "our Journal." We are now drinking this as a dark still wine, and drawn from the barrel. I wish to keep it a year or two longer in the wood, but the demand now for my home-made wines is too constant.

Espiran Champagne.—Digest.—1868, October 9th. Picked unripe berries into a pan by themselves, crushed them in a mortar with a pestle, using a circular motion, and without bruising the pips. The saccharometer floated in the pure juice of these unripe Grapes at 15°. I added a gallon of water, and the saccharometer then floated at 9½°; October 10th, saccharometer 10½°; October 11th, 12°; October 12th, 12°; October 13th, 12°.

October 14th, saccharometer 10½°. Pressed off, ran 7½ gallons; saccharometer the same; put to the juice the gallon of the second pressing of the skins, which was to spare from the ripe Grapes, and the saccharometer floated at 10°, in the quantity of 8½ gallons. Added 20 lbs. of loaf sugar, and the saccharometer indexed 39°. Placed in the working-pan, covered over, in a temperature averaging 60°.

October 15th, saccharometer in pan 40°; October 16th, 41°; 17th, 39°. Tunned the wine.

November 6th, saccharometer 17°; racked and sulphured the barrel, returned wine into the cask immediately afterwards, and fined the liquor.

December 4th, saccharometer 13°; December 26th, 10°. Plain-racked again.

1869, January 30th, saccharometer 8°. Dissolved sufficient sugar to bring the specific gravity up to the requirements of English palate—viz., 10°. March 13th, bottled.

Midsummer, began to drink this, a fine sparkling wine. October 28th, I have just two bottles of it left! Yet I smile when I think of the change that has come over the spirit of one's wine-making. Why, I declare, I was a good ten years in living down the "pooh-poohs." I can now look around and see house after house being covered with Vines. Cool vineries are rising beyond my count and ken, and some of my neighbours are becoming wine-making mad, not allowing a Gooseberry from their bushes to make a pie! One enterprising individual is buying up all the Grapes he can hear of in the neighbourhood, and I am continually receiving fresh commissions for saccharometers!—Upwards and Onwards.

(To be continued.)

PLUMBAGO CAPENSIS.

After a long silence, caused by illness and absence abroad, I have been roused from my idleness by once more seeing my favourite *nom de plume* in the pages of The Journal of Horticulture. I was induced to read the article in which it occurred, in spite of its having for its heading the name of a plant with which I am at this moment waging a war, which I much fear will end in being a war of extermination. I can only speak of Plumbago capensis as a greenhouse plant. I have what a short time since was a magnificent specimen of it trained up a pillar in the greenhouse; in the summer its fresh green delighted my eyes, and I determined it should be a real specimen plant—but how to set about it?

I had a visit from a practical horticulturist. "Ah," said he, "you patronise this old plant? Well, don't cut it, it hates the knife; you must train its long branches in and out and up in this way," and he gave them a knowing twist. So I trained the somewhat untidy sprays, bringing the moss-like heads of coming bloom conspicuously forward (as "Sally Manchester" did with the bow of ribbon on her bonnet), to the "congregation side," the "congregation" being represented in the greenhouse by a window looking into the drawing-room. Oh, the trouble I had with those unruly branches! Now they lopped down on one side, and shot up out of sight on the other. Now they entangled themselves in chignons, and flirted out in the faces of passers-by, till blue worsted and zinc wire reduced them to something like obedience. But the battle was not yet

begun. One day an amateur gardener of some experience came to see my treasures. "So you keep this nasty thing?" said he, giving a rebellious branch a contemptuous push. "Yes," I answered, a little grufily, "it is a favourite of mine." "I hope you'll like it by-and-by," said my friend, still scornfully. "And why not?" thought I. So I kept it well trained and well syringed, and first the lower part of the blossoms appeared, and faded, too, a little more quickly than was compatible with true beauty, but I waited patiently for a perfect bloom, and after awhile the mossy buds burst into a pale heaven of blue, and for a few days I felt triumphant.

The end of October was approaching, and damp days and cold nights made fires necessary, and then my Plumbago troubles came fast and thick upon me. As mothers' hearts cling to their unruly children, so my heart clung to this rampageous (I am afraid that is not a dictionary word) plant, its colour contrasted so well with Scarlet Pelargoniums and Begonias, with the pure white of Ericas, and the clear pink of Epacrises.

But the evil day was at hand. "Look here," said a friend one morning, "this poor plant is covered with the thrips, nothing will cure it but smoke." I hastened to the back of the pillar and found the leaves spotted with a yellowish-white-looking scale, with here and there a dark buff little creature, whilst the leaves still unspotted were powdered over as with salt. I was in despair, but I ordered the Plumbago a smoke bath to be taken directly. The next day things were not improved, and Pooley's tobacco powder was suggested. I flew to the syringe, gave a copious shower of water, and then of the tobacco dust, till a fit of sneezing compelled me desist; but all to no purpose. I verily believe the tiny monsters were confirmed snuff-takers, for I found them still on the leaves, and masters of the situation. Then another amateur spoke. "You will do no good till you pick off every infected leaf." I ran for scissors and knife, and cut away without mercy, till my "specimen" plant looked the most forlorn thing in Nature; then I brought soap and water, and washed branches and leaves, and then gave another syringe; after this I took away the top soil, and added fresh, looking up in the "Cottage Gardeners' Dictionary," for the most approved mixture. Then I thought I had done all I could, and looking at the poor plant with a savage mein, I said, "and if that won't do I'll cut you down, and trust to Clematis, Tacsonia, and Passiflora;" and so I will, for I love not to see a thing of beauty disfigured.

I do not see how to make Plumbago capensis useful for out-of-doors decoration in England, for it is a late-flowering plant, and could not bear the rough winds of autumn, nor the early frosts; but I have seen it in Mentone gardens blooming amidst a very wilderness of sweets, while showers of Orange petals were falling around.

And, now, I have given a true and particular account of our greenhouse Plumbago, such as "C. A. G." has asked for. I grant all that is spoken in praise of its pure sweet colouring, but it is a plant difficult to manage, and awkward in its growth; besides, it is very seldom that a perfect bloom can be obtained from its dilatory mode of coming out, which leaves the lower blossoms discoloured and faded before the upper ones are perfected.

I am writing in Devonshire, on November 5th, and blooming in my own garden, and in the gardens around, we have Cyclamens, Roses, Verbenas, Salvia patens, Coronilla, Myrtles, Violets (Czar, Devonia, and others), Pelargoniums, Chrysanthemums, Carnations (here and there one), Fuchsias, in many varieties, and other plants. I doubt if the flora of Mentone could furnish as many specimens.—Filix-fœmina.

N.B.—I have trapped a lady-cow, and have put it on a plant of Asplenium marinum infested with mealy bug, which I intend to leave undisturbed for the little lady's winter store.

BRICK EDGINGS.

I can recommend to your correspondents an edging much cheaper and more ornamental than that formed by common bricks laid diagonally. There are manufactured at Bridgewater excellent border tiles of the same material as ordinary bricks. They are made a foot long nominally, but actually somewhat over 10 inches, about 9 inches deep, and an inch thick; in fact, of the same form as terra-cotta tiles, and having a scolloped edge. I buy them from the local tradesmen at 6*s.* per hundred in any quantity, however small; and as the tiles are forwarded to the tradesman here per rail some sixteen or twenty miles, I imagine that at a greater distance the cost would be very slightly increased.—Vicar.

FLOWERING DAHLIA IMPERIALIS IN POTS.

I have succeeded in blooming the Dahlia imperialis in pots. I have now two plants of this Dahlia in 12-inch pots in good bloom, each under 6 feet in height, with good foliage, and well studded with buds to within 2 feet of the pot. Should you think it desirable, I should have much pleasure in forwarding them to the next exhibition of the Horticultural Society.—John Sharpe, *Waltham Cross.*

[Yes, we think a specimen should be sent to the Society.—Eds.]

NOTES AND GLEANINGS.

We are informed that Lieut.-Colonel Scott, R.E., F.L.S., Hon. Secretary of the Royal Horticultural Society, offers for competition at the Society's first meeting in 1870 (January 19th), five guineas (£5 5*s.*), for an essay on the principles of floral criticism.

—— An entertainment was given by Messrs. Sutton, of Reading, according to annual custom, on the 9th inst., to their staff of assistants, numbering on this occasion nearly 100. One of the large stores was set apart for the purpose, and gaily decorated. The proceedings commenced with a dinner at six o'clock. The principals were present the whole of the evening, with members of their families. The company separated at ten o'clock highly gratified.

THE COMBINED ORCHARD HOUSE AND VINERY.

In some of the later editions of my little work, the "Orchard House," I have adverted to the possibility of cultivating Grapes in the same house with Peaches and Nectarines, recommending the Vines to be 10 feet apart, and closely pruned. I felt some caution in giving this recommendation, as I had seen so many orchard-house trees injured by Vines nearly or quite covering the roof, and in this attempt to serve two masters both crops had failed. In the spring of 1865, observing one of my span-roofed houses, 100 feet by 24, to have a bare appearance, I determined to try if Vines could be enticed so as to grow up and cover the pillars.

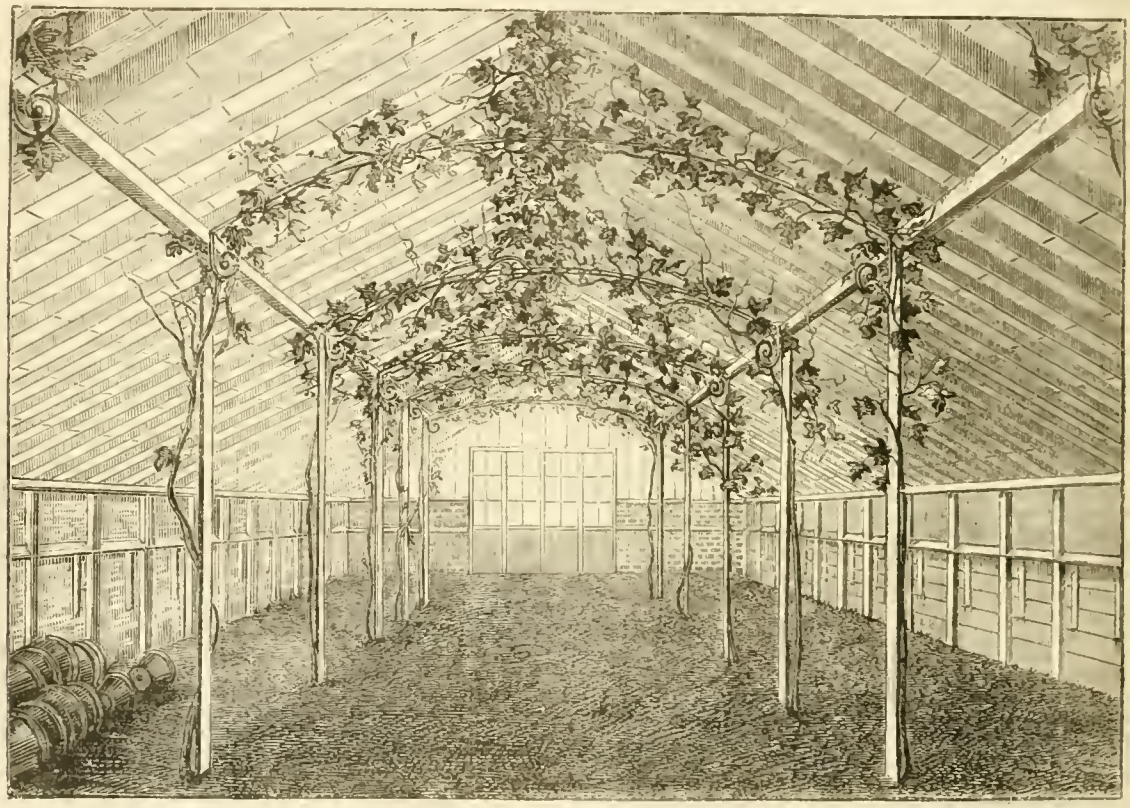
I must, however, first give a description of the house, with its good points and its appearance. It is, I repeat, 100 feet long and 24 wide; its sides are 5½ feet in height—they should be 7 or 7½ feet; its height in the centre is 12 feet—it should be 15 feet. The roof is supported inside by two rows of pillars (alias 2-inch gas-pipes), seven in each row; these are 6 feet from the sides, and are tied together, as seen in the photograph which I now send, by arches of iron rods, which keep the roof firm, and the whole building stable.

Well, it was in April, 1865, that on looking into this house and admiring the beautiful blossoms of the Peach trees, I was struck with the bare look of the "pillars" and arches, and so, as I have always thought rapidly, and acted ditto, I called one of our most active workmen and told him to take up fourteen Black Hamburgh Vines from the border close by (the border being sand, and the house standing on the boulder clay some 30 or 40 feet deep); these Vines were two years old, and had been raised from eyes and planted out. I directed my friend —for is not every workman the employer's friend?—to take a pick and make a hole about 18 inches square, and the same in depth, at the foot of each pillar; in fact, in the paths, for there are in the house a central border 6 feet wide, two paths by the pillars each 3 feet wide, and two borders next the sides each 6 feet wide. The clay was so hard—as the soil on which the house stands had not been dug for seven years—that some difficulty was experienced in making the holes. When ready, about a peck of rotten manure and loam was partially mixed with the calcareous clay, of which I enclose you a sample, and the Vines cut down to two eyes, and then planted. My single idea was that they would grow sufficiently to cover the pillars with their beautiful foliage, for Vine leaves are always "things of beauty;" but to my surprise they started at once and made shoots some 10 feet in length, and at once fulfilled their office. I remember thinking at the time that as they had eaten up their small quantity of food all at once, like a boy with his box

of sweeties, the hard clay path would stop them the following season, and that, to carry on my simile, they would be like a boy with only dry bread to eat after a pleasant gorge of sweet things. In this I was, however, agreeably disappointed, for the following season they bore numerous fine bunches of fruit, and made shoots from 15 to 20 feet long, and so they have continued to grow, covering the arches; and being carried longitudinally under the ridge and within 1 foot of the glass, they have formed, as may be seen in the engraving, a nice *tout ensemble:* in fact, I have never seen anything more beautiful in Vine culture.

The Peach and Apricot trees were removed from the house about the end of August, so that the Vines ripened their fruit in a large, warm, dry, airy space; and towards the end of last month, after having gathered a great many, we cleared the Vines of their fruit, amounting to about four bushels, every bunch perfect in bloom and flavour, and weighing from 1 lb. to 2 lbs. each. It is strange to say, that although at the crests of arches, and on the longitudinal wires, the leaves in many cases touch the glass, yet no leaves are ever scorched; not even in the hot summer of 1868 were they touched. This, I believe, is entirely owing to the glass being taken out at each end under the gables, to an extent of about 3 square feet. These apertures are open night and day, winter and summer, and in hot sunny weather the thermometer then standing at 105° among the leaves within a foot of the apex of the roof, a movement of the leaves is always perceptible, as if the comparatively cool outer air were gently but constantly pouring in. I have never witnessed this elsewhere in vineries, but I feel assured it is the perfection of Vine culture. Many good gardeners have seen my combined orchard house and vinery, and have looked in wonder at the barn-floor-like surface of my Vine borders—a misnomer.

And now comes the question, How have such means produced such results, for it seems scarcely credible that a hard unstirred floor of calcareous clay should give such healthy growth and such fruit, so fine in flavour, and so thin-skinned, as in the bunches sent. On digging some holes in the floor of the house to ascertain what the roots were doing in their apparently unfavourable habitat, they were found spreading



over the whole floor of the house a few inches under the surface, some of them having made their way to the outside under the boards forming the lower part of its sides.

The question now arises how the healthy state of the Vines has been promoted in such a soil, so different from the prepared borders so much in fashion; and first, it seems to me that, owing to the surface of the house being nearly covered with Peach trees in pots, all surface-dressed with the stimulating compost used here—saturated horse droppings and kiln dust—and the trees being watered once a-day, the roots of the Vines received a large quantity of liquid manure which would filter through the pots; and the surface being warm, moist, and shaded by the trees, would encourage the Vine roots to it, thus giving them a favourable pabulum in which they seem to luxuriate.

I must state, that in addition to constant currents of air through the apertures under the gables, the low side ventilators were open night and day in hot weather, as were the folding-doors at each end of the house.

In common with the orchard-house trees under them, the Vines were syringed, sometimes twice a-day in hot weather, till the first week in August. I trust I may be allowed to say, that Mr. Rivett, of Stratford, built this house at a cost of from £150 to £160. A house of the same dimensions as to length and width, with a height in the centre of 15 feet, and at the sides of 7 feet, can now be built for £180. It is gratifying to know, that a combination of orchard house and vinery giving so much beauty and profit, can be built at so reasonable a sum, quite equal as regards produce to those fancy orchard houses often costing £500 and upwards.—Thos. Rivers.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Asparagus haulm may now be cleared off, cleaning the ground and giving a good dressing of rotten manure; and in the case of young plants which are only very lightly covered, the manure might be mixed with a quantity of leaf soil. Apply a good solid coat 2 or 3 inches thick, if the manure and leaf soil can

be spared. The late crops of *Celery* should now be earthed-up rather closely, making the ridge as narrow at the top as can conveniently be done, and neatly finishing the sides with the back of the spade, so as to prevent as far as possible the soil about the plants becoming saturated with wet. The soil about the early crop, or that fit for use, should also be made to throw off the wet as much as possible, pressing it firmly about the tops of the plants, and making the top of the ridge narrow and smooth. Of course Celery will not be earthed-up after this season when the plants are wet, neither should it be done when the soil is wet if this can be avoided. Mixing plenty of quick-lime with the soil about the plants will be found of considerable use in preventing their rotting in winter, and it will also save them from being disfigured by slugs. *Cauliflowers* in head, if not wanted for use, may be pulled up and hung in a shed in a cool place, where they will keep good for weeks, and will be out of the way of injury from frost, unless this should be very severe. We may now expect sharp frosts at any time, and all necessary preparations should be made at once, such as having a good stock of covering for the most forward *Endive* and *Lettuces*. *Rhubarb* and *Sea-kale* may now be introduced into the Mushroom house; it is the best plan both for economy and certainty, besides doing away with a considerable amount of unpleasant labour in covering on the open ground with leaves, manure, or other materials. The following is the preparation necessary for entire success in producing these two very useful winter vegetables:—Make a sowing of Sea-kale every year on ground well trenched and manured, and, if possible, give several good soakings of manure water during the summer. At two years old these plants will be of good substance for forcing; they should be taken up in the autumn before severe weather sets in, and laid in some place where they can be easily reached when wanted. If possible force them towards spring. This prepares them for the following two or three seasons. As the roots are done with lay them in until the end of the season, then prepare ground as above, only be sure not to spare rotten dung. Cut the roots into convenient lengths for planting, and set them about 2 feet apart, using only the soundest and straightest roots, which may be planted with a common dibble a little below the surface. Thin out the crowns during summer to one or two to each stool, and, as before stated, apply manure water freely. *Rhubarb* requires similar treatment as regards sowing and the preparation of the ground, only when forcing is over it is necessary to cut the roots severely, planting only the crowns with a very small portion of the old root adhering. These may also be planted with a dibble at 3 feet apart. This, along with the free use of manure, is the preparation previous to forcing. Myatt's Victoria is the best for all purposes.

FRUIT GARDEN.

Let there be no lack of attention in the fruit-room at present, for fruit requires more care during the first few weeks after gathering than all the season afterwards. Give sufficient air to carry off damp, but nothing more, as allowing dry winds to blow over the fruit would only cause shrivelling. Strawberries for early forcing should be placed where they can be protected from drenching rains; a cold frame or pit, where either can be spared, would be the best situation for them, but the lights should not be put on save in case of rain or frost, and, indeed, the whole stock in pots for forcing would be benefited by being placed where they would be guarded from heavy rains.

FLOWER GARDEN.

Clear off at once the stems, &c., destroyed by the recent frost, and attend to the general removal of fallen leaves. In this uncertain climate it is important to have a reserve of protecting materials at hand in case of need, but it is best not to apply them till there are some indications of severe weather. If we protect carefully and the season prove mild, we may do harm. Complete all planting, and push on alterations, particularly the removal of objectionable trees, which if cut down now may be removed in frosty mornings without much injury to the turf and walks. Those who purpose making additions to their collections of Roses should do so at once, as there will be a better chance of obtaining good plants now than after the nursery has been repeatedly picked over. The present season is also very favourable for planting all but tender sorts, which had better be kept under glass until next May, but these should be procured at once, and if they can be placed in a gentle heat through the winter, they will grow freely and furnish cuttings which will root as freely as Verbenas. In preparing ground for Roses let it be trenched at least 2 feet deep, and well incorporate a very heavy dressing of manure with the soil to the full depth. It is hardly possible to make the soil too rich for any kind of Rose, particularly the autumn-blooming kinds, and 4 or 6 inches of good, rotten, farmyard dung will not be too much where the soil is naturally rather light and poor. Large-headed standards which have done blooming for the season should be cut back rather freely, to lessen the chance of their being injured by heavy gales of wind. Continue to clear the beds of their summer occupants as these become unsightly, and, after trenching or doing whatever will save time at next planting-out season, let them be furnished for the spring. Also look over the herbaceous borders and make any projected alterations there, taking up and dividing any of the coarse-growing plants that may be inclined to encroach too much upon their neighbours. The modern system of gardening is fast driving this class of plants out of cultivation, but many of them are beautiful, and if they were more largely grown our gardens would not have that naked appearance in spring which is too often seen. Sweep and roll grass frequently, and keep gravel walks hard and smooth by frequent rollings.

GREENHOUSE AND CONSERVATORY.

Take advantage of unfavourable weather for out-door work to thoroughly clean the foliage of Camellias, Orange trees, &c., for it is hardly less essential to the health of such things that their foliage be kept clean, and in a fit state to perform its functions, than that their roots be kept in a healthy, active state. It is a somewhat tedious operation to wash the leaves of a large specimen singly by hand, but, fortunately, this is seldom necessary, as most plants can be cleaned at this season when the foliage is not in a tender state, by laying them on their sides and well washing them with water at about 140° or even 160°. Throwing the water against them with considerable force will not injure the matured foliage of hardwooded plants. Any neglected specimens much infested with scale may require to be gone over with a brush for the purpose of removing the scale, as warm water will not be sufficient to clear plants of the pest. Look over the plants in the greenhouse frequently, and examine very closely those liable to suffer from mildew and damp, as Leschenaultias, Boronias, &c., for a short neglect will sometimes result in the disfigurement of a promising plant. The Boronias, Leschenaultias, Gompholobiums, &c., are very impatient of exposure to cold drying winds, and if these must be wintered in the same house with the hardier kinds of greenhouse plants, they should occupy a part of the house where they will not be exposed to cold draughts; but air must be admitted by the top sashes freely on fine days. Also exercise the greatest caution in the application of water, especially in the case of tender-rooted plants which have not well matured their season's growth, for if the balls of these be saturated, the roots will be checked and the specimens greatly injured. Therefore, never water until the ball is so dry that water cannot safely be withheld longer, and then give enough to moisten the whole of the ball, whether large or small. Keep Cinerarias and other softwooded stock clear of green fly, and endeavour to secure stocky plants by affording them sufficient pot-room, and admitting fresh air freely whenever the weather permits.—W. Keane.

DOINGS OF THE LAST WEEK.

Our work has been so much a repetition of that of previous weeks, such as hoeing, forking, wheeling, mulching fruit trees, washing pots, potting, protecting, and uncovering, that it may be as well to advert to a few matters of general interest, and which are apt to be forgotten.

Heating.—We finished last week with a few words on this subject, and that might partly be the reason why a correspondent who not only thinks himself, but has often caused us and others to think, has put to us the very searching question—"Why dilate upon furnace management, and not do more to inform us how we are to heat our little houses without sending two-thirds of the heat into the atmosphere? I was persuaded to heat my little house with hot water; the fuel wanted was to be a mere nothing, but I find it something prodigious, and notwithstanding the damper and every care, I could, I believe, boil a tea-kettle at the top of the chimney. I have been puzzling myself as to the heat so much fuel should give out, only to come to the conclusion that scarcely one-third of that heat is taken up or absorbed by the water that circulates in my pipes. I have another separate lean-to house which I wish to keep comfortable from the inroads of frost, but I dread to call in the water doctors, with the enormous fuel bill as the accompaniment.'

Now what shall we say to such an economical correspondent —and the question of economy will soon be the most prominent of all questions—but to repeat what has been said and said over again?—that there is no mode of heating houses for plants or houses for men that is not attended with waste of the heating power. The times are not yet, but we see them coming, when the heat now lost in our great plant and forcing establishments, in our villages and towns, will be made subservient to the heating of water for washing, baths, &c., or, in the shape of heated air, appropriated to help our variable climate, so that men may not only sit under, but eat the produce of their own Vines and their own Fig trees. Meanwhile we have to do with the present; and with some experience of modes of heating, and with much love for the hot-water system and the ease with which it can be applied, we have no hesitation in saying that for small houses, and where only a very moderate artificial temperature is required, the hot-water system, as regards first expense and fuel, is the most costly that could be devised. And this holds true as respects fuel, because there is likely to be nearly as much loss of heat from the chimney of a house 20 feet in length as from one that is 100 or 200 feet in length. The extra loss will ever be greatly dependant on two causes—first, carelessness after the fire is fairly going in not leaving merely a very small opening in the ashpit door and looking after the damper. Of course, in lighting up and getting the fire established, the damper must be left pretty well out, but when well established very little serves to keep up combustion. The smoke is sooner burned and the fire sooner bright if there is a small opening for air over the fuel—a very small opening does; and this principle is well attended to in several of our iron or metal stoves. There is so often apt to be a difficulty with the damper—putting it in too far or leaving it out too far —that it is a good plan to have a hole in the centre of it, say 1 inch in diameter, and then when the fire is established and the heat well up the damper may be pushed home; afterwards the small opening in the ashpit door and the opening in the centre of the damper will support a slow continuous combustion, and the heat, instead of freely passing up the chimney, will be greatly thrown back and concentrated round the boiler. As far as our own practice and observation extend, we should depend more on these matters as regards the ashpit door and the damper than upon any specified form or arrangement of the boiler, looking upon the simplest as rather the best, though not insensible to the merits of many of the new ones advertised in our pages.

The second point is keeping the boiler free from sooty incrustations. There is little chance of the part directly exposed to the fire-box becoming encrusted, but the sides and upper part are more liable, though the heat of the fire comes, but more indirectly, over them. There is no better nonconductor of heat than soot, and where only a moderate heat is required, much extra fuel is needed to heat a boiler partly covered with soot, and therefore, other things being equal, that boiler is the best which has the most convenient openings for clearing away all soot frequently with a brush and hoe. Neglecting to do this often entails additional expense for fuel. If we wished to utilise the heat that escapes from the chimney top of a boiler, though we should like to keep the boiler clean to receive all the benefit possible of the heat, provided there were room enough left for smoke, &c., we should not be particular in cleaning the sides of the chimney from soot, as the more it was soot-crusted, the less heat would be absorbed by the chimney, and the more be carried to the discharge opening. On the same principle, were we heating by a flue, the economy of heating would greatly depend on keeping the flue clean, so that the material of the flue might absorb the heat instead of so much of that heat being carried on to the chimney-top by incrustations of powdery soot. Many flues would do their work more efficiently and economically if more frequently cleaned: hence the importance of having openings for this purpose, so that the sweeping may be done without breaking or disturbing the flue.

Notwithstanding all these attentions, however, the economy of heating by hot water will ever be in direct proportion to the extent of heating; and thus, though best and cheapest where much work is to be done from one furnace, it is, as already stated, the very dearest where only one little house is to be moderately heated. We make the last remark advisedly, on the supposition that a furnace and boiler are to be worked for this individual purpose. Where a small house can be heated from a kitchen range, or from one or more gas argand burners, then the circumstances alter the case. Even when much work is done by one boiler, heat would be greatly economised if the heated air, instead of mounting the chimney, were taken some 40 feet in a flue, and that made to heat a separate house, pits, frames, or even borders for early crops.

Passing heating by gas, as having received prominent attention of late, and also because our knowledge of that mode of heating has as yet chiefly been confined to observation, we would, for the purpose, at least, of creating more discussion on the subject, state our impression, as the result of rough measurements of fuel consumed, that to secure a temperate heat in small houses—say from 12 to 35 and 40 feet in length, and from 8 to 12 in width, with an average height of 10 or 12 feet, and all lean-to's, the economy of heating will stand first for *stoves*, second for *flues*, and third for *boilers*, and that these will not stand as 1, 2, 3, but if the stove is represented by 1, the flue will be represented by 2½, and the boiler from 4 to 4½, and on to 5, if not well managed.

A few words, then, on the former two old-fashioned and simple modes of heating, but for small places the most economical as respects fuel. The cheapest-heated stoves are those that are placed in the house to be heated, and that are cleaned out, lighted, and supplied with fuel there. Had we much to do with such stoves, we would prefer brick stoves, topped with a plate of iron, and supplied with an evaporating basin on the top. They have the advantage of giving a regular genial heat; they have the disadvantage that they cannot be removed like an iron stove, and, therefore, the latter is likely to be more generally used. Unlike a flue, the chief point is to concentrate the heat chiefly in the stove. Standing mostly above the ground level, they will act best when the discharge pipe is above the feeding-door near the top of the furnace, and on the opposite side to the feeding door. This discharge pipe should never go horizontally more than from 18 to 30 inches, and then the more upright it rises the better. We have tried it repeatedly, and find it most difficult, next to impossible, to manage, when, for a particular purpose, we had the outlet pipe nearly horizontal for 8 or 10 feet. Wherever the stove is placed—near a back wall, or in the centre of the house, the discharge pipe must rise less or more perpendicularly, when at the above distance from the stove. We have a square stove sunk in an opening in the centre of a house, 75 feet by 11 feet, the discharge pipe, after the short horizontal pipe, being a common 9-foot pipe of 3 inches in diameter, and that stove has kept the house as yet a number of degrees above freezing. Coke is chiefly used, and a pole is now and then pushed up and down the pipe to dislodge any incrustations.

In all iron stoves for plant houses, we should like them to be double, or large enough to hold a fire-box from 9 to 12 inches square, quite free of the sides of the stove, or with the fire-box neatly lined with fire clay lumps. When the stove becomes very hot, approaching red, it burns the air round it, and if there are either vegetable or animal exhalations present, it tells at once on the senses, and is hurtful to the plants exposed to it. Chemists, we believe, fail to discover how the red heat affects the air, just as they frequently fail to discover what it is that brings plague and pestilence, but the effects are so apparent that no stove for plant houses or living-rooms, should be much heated if the live fuel come in direct contact with the iron sides. This, to a considerable extent, may be neutralised by an evaporating pan; and some stoves are so made, less or more on the Arnott system, that the heated air circulates all round, below as well as above the fireplace, and, therefore, if such stoves are placed in a vessel of water, there will be a constant evaporation going on, according to the heat employed. Of course, in proportion to the water evaporated, there will be near the stove a diminution of felt heat—say from one-tenth to one-fifth, but the heat thus rendered latent in evaporating moisture, will be given out again as the vapour is condensed in the coldest ends of the place to be heated. At any rate, when we have used an iron evaporating basin on the top of such a stove in the middle of the house, we have found the ends of the house more similar in temperature to the centre of the house close to the stove, than when dry heat alone was used.

Whatever the kind of stove used, it is advisable to have the top moveable, so as to clean out the stove thoroughly at times, but we prefer the feeding box to be at the side. We have a round stove fed from the top, but with an inverted funnel over part of the opening that prevents much hot air escaping when adding a fresh supply of fuel. In feeding any of these stoves in a house, it is advisable to open the ventilator in the ashpit door a few minutes previously, so as to throw a keen draught into the outlet smoke pipe, and then when opening

the feeding door there will be little of an outlet of heated air or smoke. We like our top-feeding stove very much, but we cannot set an evaporating basin on it well, and have, therefore, to neutralise the dry heat by other means. In all such stoves their good working must depend on the close-fitting of feeding and ashpit doors, and the draught and the combustion when the fire is lighted must be regulated by the smaller or larger opening in the ashpit door. A very small slit for air over the fire-box will greatly help in lessening the smoke, causing it to be consumed instead of coming like a dense cloud from the smoke tube. In many small houses a stove inside costing with all appurtenances, say, from £3 to £5, would keep a house comfortable all the winter with something like one-fourth or one-fifth of the fuel that would be required for a boiler.

We shall now make a few remarks on flues, as the next cheapest for small houses, and dispensing with all lighting, &c., inside the house. Unlike stoves, the smoke pipe or funnel of the flue is nearly or altogether horizontal, with a pipe or other chimney perpendicular at the farther end. If the flue is slightly on the rise it will draw as well; but it will draw very well on the level, with the raised chimney at the end, if *the fire-bars of the furnace be from* 24 *to* 30 *inches below* the level of the top of the flue. We have used earthenware pipes at a yard from the furnace, but we cannot say much in their favour. We have seen the stronger, harder-burnt material used for water, &c., employed with better effect. Round pipes of Portland cement, from 7 to 12 inches in diameter, make excellent flues, and if bricks are used a yard or so from the furnace, the cement stands the heat well. When pipes of any kind are used, they should go into square recesses, covered with a tile or slate, at the corners, so that all sweeping and cleaning can be done without disturbing a pipe. Flues, however, above ground are not pretty, and in small houses are apt to come in the way. Let us, therefore, once more recommend to all owners of small houses, who wish to combine comfort with economy wherever they can, Sink from 30 to 36 inches for a stokehole, to have a small flue beneath the pathway.

We had a small greenhouse unheated for years. We said to numbers of hot-water men, "Now this case of ours is one of many thousands. Can you not make it worth your while to heat such houses cheaply, and depend on the vast numbers for remuneration?" We kept for some time, but have now lost, the rough estimates. Of almost every one of these men, if we had a large job of heating, we would consider the opinion and judgment better than ours, and would be guided accordingly; but none came near what we wanted for this little house. At last, chiefly with the help of a good labourer and the assistance of a bricklayer at the furnace, we flue-heated the house at the expense of not many more shillings than it would have required pounds to heat it by hot water. The floor had been covered with 9-inch square tiles, and we made that the basis of our operations, resolving to leave the floor just as if nothing had been done. The passage was in front, so there we determined to have the flue—a flow and return. Three bricks on edge would have made the two flues. As we had bricks, we preferred brick-on-bed for strength, and though two bricks deep would have done, we used three, with their joints as small as possible. A trench was taken out of the requisite depth to suit the rest of the floor. The bottom was laid with slate, except close to the furnace, where bricks and tiles were used. Three walls of brick-on-bed for strength were used, leaving two spaces between of from 4½ to 5 inches wide for the flues. These were covered with thin tiles near the furnace, and the rest with thin slates resting on the three walls. These, covered with mortar, had the flooring tiles bedded on them, the centre of the tile of 9 inches over the centre of the flue, and resting on the wall on each side. These side walls give support on each side to the next row of tiles, which are thus left hollow for fully half their width, one side resting on the wall, and the other side on the earth, &c., of the flooring. Eighteen inches wide of surface are thus exposed to the direct heat of the small flues, and fully 6 inches on each side, making about 30 inches of heat-radiating surface. On lighting the fire, the furnace bars being pretty well sunk, the tiles begin to throw off heat in about half an hour, and very little fuel maintains the necessary warmth to keep the temperature from 40° to 45° and 50°. No smoke has troubled us, except once or twice, and a little mortar at the joints soon stopped that.

Now, much of the pleasure of having a little greenhouse close to or joined to a living-house consists first, in being able to walk into it directly from the house, and then being able to walk round it, which can always be done when the house is from 12 to more feet in width. Now, for such a house what better plan could there be, say the house measuring from 20 to 30 feet in length, than having a 5-inch flue all round beneath the pathway, a tile covering it, and the next tile on each side as above partly hollow, giving thus 5 inches of warm radiating surface, and some 12 or 14 inches not quite so warm, but considerably heated? Just think, too, of the pleasure in a frosty or dull drizzling day of having a rapid or a sauntering walk round such a house with such a dry, warm, firm path to walk upon, instead of ordinary tiles or flags! Now not half the fuel would be needed to make such a house comfortable that would be required for the best small boiler. The last two days of sharp frost that we had, a man put on rather more fire than was necessary, but it served for the two days. At the end of fifty hours the tiles were just pleasantly warm. Of course the furnace and ashpit doors were kept shut when the fire was turned out. This is another of the advantages the flue, and such a flue as this in particular, has over hot water; the heat remains so long after the fire has gone out.

We expect to be accused of retrograding instead of advancing, but we wish to be of service, not only to the possessors of small glass houses, but to the many thousands more who would have one at once but for the difficulty and the expense of heating them.—R. F.

Death of Mr. W. Perry.—At Wisemans, in the Nurseries, Sawbridgeworth, on the 20th inst., Mr. Wm. Perry, aged fifty-nine, forty-nine years of which he was the faithful assistant of the Messrs. Rivers. Mr. Perry for many years acted as judge at the metropolitan Rose Shows, and was well known and appreciated for his quiet unobtrusive manner and sound judgment. "Faithful and true to the end."

COVENT GARDEN MARKET.—November 24.

The change of wind has brought large arrivals from the Azores and Canary Islands; among other articles are the Opuntia fruit, the Banana, and some fine specimens of the Pomegranate. Home-grown produce is quite sufficient for general purposes, except Apples and Pears. French imports are moderate.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples ..... ½ sieve	2	6	to	4	0	Mulberries .... quart	0	0	to	0	0
Apricots ..... doz.	0	0		0	0	Nectarines ..... doz.	0	0		0	0
Cherries..... lb.	0	0		0	0	Oranges 100	6	0		12	0
Chestnuts.... bushel	8	0		14	0	Peaches ..... doz.	0	0		0	0
Currants .... ½ sieve	0	0		0	0	Pears, kitchen .. doz.	2	0		3	0
Black ..... do.	0	0		0	0	dessert .... doz.	3	0		5	0
Figs ..... doz.	0	0		0	0	Pine Apples ..... lb.	3	0		6	0
Filberts ..... lb.	0	6		1	0	Plums ..... ½ sieve	3	6		5	0
Cobs ..... lb.	0	6		0	9	Quinces ..... doz.	2	0		3	0
Gooseberries .. quart	0	0		0	0	Raspberries ..... lb.	0	0		0	0
Grapes, Hothouse . lb.	2	0		5	0	Strawberries .... lb.	0	0		0	0
Lemons 100	6	0		10	0	Walnuts .....bnshel	10	0		16	0
Melons ..... each	2	0		3	0	do. 100	1	0		2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0	Leeks ..... bnnch	0	4	to	0	0
Asparagus 100	0	0		0	0	Lettuce ..... score	1	0		2	0
Beans, Runner ½ sieve	0	0		0	0	Mushrooms.... pottle	1	0		2	0
Broad .... bushel	0	0		0	0	Mustd.& Cress, punnet	0	2		0	0
Beet, Red.....doz.	2	0		3	0	Onions ..... bushel	3	0		4	0
Broccoli .....bundle	1	0		1	6	pickling .. quart	0	4		0	8
Brus. Sprouts ½ sieve	3	0		0	0	Parsley ..... sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0	Parsnips ..... doz.	0	9		1	0
Capsicums 100	0	0		0	0	Peas ..... quart	0	0		0	0
Carrots.....bunch	0	4		0	3	Potatoes .....bushel	2	6		4	0
Cauliflower..... doz.	3	0		6	0	Kidney.... ditto	3	6		4	0
Celery..... bundle	1	6		2	0	Radishes doz.bunches	1	0		0	0
Coleworts .. doz. bchs.	2	0		4	0	Rhubarb..... bundle	0	0		0	6
Cucumbers .... each	0	6		1	0	Savoys..... doz.	1	6		2	0
pickling .... doz.	0	0		0	0	Sea-kale ..... basket	4	0		5	0
Endive ..... doz.	2	0		0	0	Shallots ..... lb.	0	0		0	6
Fennel .....bunch	0	3		0	0	Spinach ..... bushel	2	0		3	6
Garlic ..... lb.	0	8		0	0	Tomatoes ..... doz.	2	0		3	3
Herbs ..... bunch	0	3		0	0	Turnips ..... bnnch	0	4		0	8
Horseradish .. bundle	3	0		5	0	Veget. Marrows.. doz.	0	0		0	0

TRADE CATALOGUES RECEIVED.

F. & A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Catalogue of Forest Trees, Hardy Ornamental Trees and Plants, &c.—List of Roses, New Plants, Hardy Climbers, &c.*

James Whitehead, Croft Bank, Hollinwood, near Manchester.—*Catalogue of Carnations, Picotees, Pinks, &c.*

TO CORRESPONDENTS.

Books (*Miss Browne*).—We know of no small illustrated book on the Grasses, except Plues's "British Grasses."

PELARGONIUM PRINCE SILVERWINGS (*J. B. S.*).—You ask if the above is a Gold or Silver Tricolor; our opinion is that it belongs to the Silver *Tricolor* section, although at times, as you observe, it has the appearance of a Golden Tricolor. We should not, however, hesitate for a moment to exhibit a good plant of it, either in a collection of Silver or Golden Tricolors. It is a very pretty and pleasing variety.

HYACINTH GLASSES (*W. I. Tait*).—They are known as "Tye's Hyacinth Glasses." All seedsmen sell them.

TRETIDIUM SPECIOSA (*H. C.*).—We know of no plant so named.

CACTUSES (*D. W.*).—We consider the best work of authority on these plants is De Candolle's "Plantarum Historia Succulentarum."

FRUITERER (*Kate*).—Messrs. Webber & Co., Covent Garden Market; but as your post-mark is Bangor, you had better find a fruiterer at Chester or Liverpool.

ROSES—DATES OF INTRODUCTION (*W. H. M.*).—We cannot give you the information. About three years ago M. Margottin, Bourg-la-Reine, Paris, published a catalogue with the information, and perhaps you might obtain one by writing to him.

GESNERA LEAVES CURLED (*A Lady in Cheshire*).—The leaves may curl from the attacks of the white fly, which is very difficult to exterminate. Fumigation with tobacco being the only remedy, and that must be done moderately, otherwise the foliage of the plants will suffer. To have fine plants they should be started in good time, and grown in a brisk heat of from 60° to 65° at night, and 70 to 75 by day, with a rise from sun heat to 80° or 85°. Place them near the glass, and maintain a moist atmosphere until they are coming into flower; then keep them rather drier.

VERBENAS DUSTED WITH SOOT (*Try*).—The cutting sent appears to have been severely attacked by either red spider or thrips, if not by both, and the dusting with soot would only dry up the leaves. Soot when used fresh should be applied in moderate quantity, as it is apt to burn the young growths of plants kept in a close atmosphere, and on that account tender, especially plants which have hairy leaves—as Verbenas, Pelargoniums, &c. When plants are dusted with soot the leaves should be dry, and unless these are firm, it is better not to dust them with soot, except in moderate quantity. All you can do is to cut away the parts destroyed by the soot, and give the plants a light airy position in a cool house. They may recover.

FERNS TO ORNAMENT A SCREEN (*Mrs. J. S.*).—To dry Ferns so as to keep their colour, as they are to be put on a folding screen and varnished afterwards, we should dry them quickly by pressing them with a hot flat-iron, then paste them on the screen, and when quite dry apply the varnish.

SIZE OF THE HORSE CHESTNUT (*J. Anderson*).—To say "what is the average width of ground covered by a full-grown Horse Chestnut" is scarcely possible. The form assumed by the tree, the nature of the soil and situation, all control its outspread. They have been known to cover a circle of 60 feet in diameter, but usually we think they do not exceed 40 feet.

FLOWER SEEDS FROM CHINA (*Hong Kong*).—We do not know any of the seeds from the names they have in China. There are no doubt many plants in China which it would be desirable to have seeds of, but it would be hardly worth while to obtain seeds of those plants which have already been introduced. In sending seeds to China, those of half-hardy plants and of the more tender sorts of hardy plants, would be most suitable, selecting, of course, those not indigenous to China. In raising plants from seed from China, sow in spring in a compost of equal parts of fibrous loam and sandy peat, and cover the seeds with fine soil to a depth about equal to their diameter. Place them in a gentle heat, and keep them moist and near the glass. Continue them in heat until the plants are large enough to handle, then pot them off singly, or prick off an inch or two apart in pans, and return them to the heat, shading and keeping moist until they are re-established; then harden off, removing them to a cool airy house, and shifting as required into larger pots.

SPENT TAN (*M. C.*).—It is of little value as a manure until completely decayed; but it may be employed for covering Potatoes at planting, and spread over the ground before being dug for vegetables, it does no harm. As a top-dressing to grass we have found it most useful when applied early in March.

PRUNING PEAR TREES RECENTLY PLANTED (*A. W.*).—We would at once do whatever pruning is needed, cutting back the shoots as required. It may, however, be deferred until early in spring, the weather now being cold; but if mild, do it now. They will be all the better of a rather close pruning, especially if the plants have lost many roots in the process of transplanting. If not pruned this year, or before growth, it is likely, from the little growth that will be made, that they will not need pruning next autumn.

ESPALIER PEAR AND APPLE TREES (*Vicar*).—The branches should be 1 foot apart. Pear trees on the Pear, and Apple trees on the Crab, should be planted 20 feet apart. A distance of 15 feet is too small, unless the espaliers are more than 6 feet high. Plums do tolerably well as espaliers, but we do not recommend them. Pyramids or bushes, and standards of the commoner sorts, are preferable. Your soil will only need draining and trenching as deeply as you can without turning up any, or but little, of the clay subsoil, though it would be well to loosen the bottom of each trench. A dozen large *dessert Pears*, suitable for espaliers, are:—Jargonelle, Beurré d'Amanlis, Williams's Bon Chrétien, Beurré Hardy, Beurré Diel, Hacon's Incomparable, Marie Louise, Thompson's, Knight's Monarch, Glou Morçeau, Beurré de Rance, and Ne plus Meuris. *Dessert Apples*: Gravenstein, Hambledon Deux Ans, Cellini, Cornish Aromatic, Adams's Pearmain, Northern Spy, Lemon Pippin, Ribston Pippin, Wormsley Pippin, Red Astrachan, Blenheim Pippin, and Herefordshire Pearmain.

CHERRIES FOR STANDARDS (*Idem*).—May Duke, Knight's Early Black, Black Tartarian, Royal Duke, Late Duke, and Bigarreau Napoléon.

VINES IN AN UNHEATED VINERY (*A Young Vine-grower*).—To grow Vines in an unheated glass house, and mainly for profit, we would confine the sorts chiefly to Black Hamburgh, Royal Muscadine, and Black Champion. There would be a risk of not ripening the Muscat you name. You will do with six Vines. With a 13-feet slope of glass, we would train the Vines from near the bottom to the top, instead of longitudinally along the house. The openings over the doorways in a 26-feet length of house will do much for ventilation, but we would prefer one ventilator at the apex in the centre. We do not think that openings like a brick end will be sufficient in the front of the house, as these 20-inch-wide squares are very different from small squares. Though you give only a little air in front, you should be able to command from 4 to 6 inches all the way. For anything but Vines you would require more. You may fill your house with trees in pots before the Vines cover the roof; then there might be one or two between the Vines.

TOP-DRESSING A VINE BORDER (*E. Jones*).—Your border covered with glass need not be protected with litter, as the roots will not be liable to suffer from frost; but when the Vines are pruned the border should be lightly stirred with a fork, but not so deeply as to injure the roots, giving a top-dressing of loam three parts, half-inch bones two parts, fresh horse or sheep droppings two parts, charcoal in pieces from the size of a pea to that of a hazel nut two parts, and one part calcined oyster-shells, the whole well mixed. Cover the border about 1½ inch deep, and when dry, or sufficiently so not to cling to the feet, tread it firm. Before the Vines begin to grow, give a good watering with water 5° warmer than the temperature of the house. The loam used should be the top of a pasture taken off about 1½ inch thick, and laid in a heap for a short time so as to destroy the grass, otherwise the fresher it is the better.

MARINE AQUARIUM (*A Constant Reader*).—"Other things being equal, a marine aquarium probably will succeed just as well fifty miles inland as anywhere else. If the air be pure, the want of that slight saline impregnation, which is the principal characteristic of sea air, cannot be much felt through a medium of pure salt water. At any rate, marine aquaria do well in the suburbs of London, for a most ornamental and well-managed drawing-room aquarium was, some years ago, located on Brixton Hill. There is no necessity for changing the water at all, so long as it remains clear and of the original density. There are dealers in marine plants and animals in Covent Garden Market, and Mr. King, Great Portland Street, also supplies them.—AYRSHIRE GARDENER."

TERRACED POTS FOR GROWING LYCOPODIUMS (*M. D.*).—You have the right sort of vessel for growing pyramids of these pretty plants. The ledges should be filled with sandy peat, adding sand liberally, and then be planted with such dwarf kinds as Selaginella denticulata, S. æsia and S. densa. Give a light sprinkling with water every morning and evening, and the vessel should be kept full of water, the top being left open. These vessels when not too soft are excellent, as they keep the roots cool and moist, but when soft the water comes too plentifully through, and the ledges are only so many receptacles for water. That defect might, however, be prevented by holes through the bottom of the ledges to allow of the superabundant water passing away.

DOUBLE PYRETHRUM PROPAGATION (*Idem*.—Like the single varieties they are perennials, but in two or three years the plants, and especially those from seed, become so weak from excessive flowering as not unfrequently to die. To keep up a stock of vigorous plants of desirable kinds, the side shoots that come from near the base of the plants should be slipped off in summer, and struck in sandy soil in a shady border, planting out in autumn or early in spring. The apparently dead roots we should mulch with leaf soil, and they will probably start from the collar of the plant in spring. If, however, your soil is strong and wet the plants will hardly survive the winter, as in such soil they are little more than biennials, and the better the kind the more delicate it is. A well-drained sandy soil is most suitable for Pyrethrums.

SALTER'S VARIEGATED ARUM (*J. A.*).—It is a variety of the Arum maculatum, which always dies down in winter.

EARLY PEAS (*H. B.*).—As you have no convenience for raising the plants inside and then planting out, your only plan will be to sow a crop on the south border as soon after this answer appears as possible, the row running parallel with the wall and being 4 feet from it, so that the fruit trees on the wall may not be injured by the shade of the Peas. If you have not space on the south border, then your only alternative will be to sow in the most sunny and sheltered position you can find, preferring sandy to heavy soil. Whether in the open ground or on the south border, a crop should be sown at once, and early in February, or as soon afterwards as the weather permits, follow with another sowing of the same sort; so that if the first sowing fail the spring one will produce in due course, and if both succeed they will form a succession. Dickson's First and Best is the best early variety at present in cultivation. If your object be to obtain a dish very early, you may, at 1 foot from the south wall, sow at once a row of Tom Thumb, placing twiggy branches of Spruce among the plants when a few inches high, which will afford them a sort of protection, and you can cover them at night in severe weather with any light material, as canvas.

SULPHUR AND TURPENTINE VAPOURS (*W. A. O.*).—You will obtain sulphur vapour or fumes without placing it on a heated surface. On a surface not hotter than 160°, fumes will be emitted that are death to red spider and mildew, and not at all injurious to plants. Turpentine placed in one or two plates in a house will destroy morely bug, and every tender leaf within the house. It is a remedy worse than the disease. It ought not to be employed in houses filled with plants, though it may be used for destroying mealy bug on Vines, but then every plant must be taken out of the house.—G. A.

SHRUBS FOR A TOWN GARDEN (*C. C. E.*)—Plant Mountain Ash, Thorns, Guelder Rose, Dogwood, and Snowberry, and fill-in with Aucubas, tree Box, and Rhododendrons in front. You do not say whether the town is a manufacturing one or not; therefore, we cannot advise as we should wish; but those named withstand any amount of smoke and dust.

POLLEN OF THE MALE AUCUBAS.—"M." says that he had the whole of his male Aucubas plunged in their pots in the ground, but his gardener has taken them up and put them in a cool house, where they are all in flower, thus more than defeating his object, which was by planting in the open to retard the time of blossoming; and he wishes to know how long the pollen can be kept in a condition to fertilise the female plants when they show bloom. He has cut off many blossoms, and wishes to be informed if it is desirable for preservation to remove the petals, only preserving the stamens? We shall be obliged by information on these subjects.

CANVAS LIGHTS FOR PROTECTING BEDDING PLANTS IN SPRING (*A. B.*).—You may paint the canvas with a composition formed of linseed oil, three pints; white resin, 4 ozs.; and acetate of lead, 1 oz. The acetate of lead should be ground with a little of the oil, then add the resin and the remainder of the oil. Incorporate the whole thoroughly in an iron pot over a gentle fire, and apply the composition hot to the canvas.

This will be better than painting it with gas tar, which should be kept as far from plants as possible.

Effects of Coke Fumes (*T. G.*).—The cause of the Tacsonia shedding its leaves we suspect is to be found in the coke used in the stove. We presume you have a smoke pipe from the stove. Coke that has even a taint of sulphur or of tar will not do for stoves in the inside of houses, as the fumes will be sure to escape less or more. You will have to obtain purer coke. The drying and browning of the buds of Camellias, &c., are no doubt partly owing to the same cause, and the dry, heated atmosphere. In addition to an evaporating basin on or close to the stove, a slight syringing overhead will be useful when much stove heat is given.

Heating a Greenhouse from a Kitchen Boiler (*Thirsk*).—With an open boiler in your kitchen, you can only heat a greenhouse from it when the flow and return pipes are, the former a little below the level of the top of the boiler, and the latter when it enters a little above the bottom of the boiler. It is always unadvisable to have any part of a hot-water pipe below the level of the boiler. You may go up as much as you like, but it is contrary to nature to make hot water descend below the source whence it comes. But for the pathway you would have no difficulty, as the pipes could stand above the walls of the pit, and the return go under the pathway to the boiler, as little below the boiler level as possible. With an open boiler you cannot raise a pipe so high as to cross over the pathway. With a closed boiler, supplied from a cistern sufficiently elevated, you can do so; and if the heat in the greenhouse has to be constantly used, the simplest mode would be to take a pipe from the boiler to a cistern against the back wall, say 7 feet from the floor, 18 inches square, and a foot deep, and make that supply the boiler. A pipe from that could cross the path and join the piping on the top of the pit wall, as stated above. If the boiler had been a couple of feet or so lower in level, there would have been no difficulty, as you could have crossed under the path level, and had your piping under your front stage. Without any alteration, your cheapest and easiest plan would be to have two 3-inch pipes fastened against the back wall at the same height as the water in the boiler. The following is another hint:—Your kitchen range seems to be about the middle, and at the back of your house 20 feet in length. Would it not be possible, by removing the wall there and fixing an iron plate, or thin fire tiles, to obtain as much heat as you wanted in ordinary weather? and then a small iron stove, or two or three large bottles—say two-gallon bottles—might be filled with hot water and placed in the front of the house in very severe nights. The whole back of such a house as yours will be less or more heated by the kitchen range. Other contrivances might be resorted to. The above plan was lately tried with good results. The back of the kitchen range, nicely packed, formed part of the back of a neat little house. The proprietor did not like the look of the recess in the wall, and a slate 24 by 30 inches was fixed in the opening, with 2-inch openings at the base and at the top to keep up a circulation in this heated chamber. In summer, when no heat was wanted, two fillets of wood filled up the openings. But for the paths and the position of the boiler, hot water would be best.

Heating Two Pits from a Greenhouse Boiler (*A Market Gardener*).—You will want two rows of 4-inch pipes for bottom heat, and two for top heat in each pit, if both are to be used alike. The boiler will be able to do the work if its position be all right. See answers to other correspondents on this subject. Of course, the heating of the greenhouse and pits must be separate. When a high temperature is needed in the pits, little or no artificial heat would be required at times in the greenhouse. Piping would cost from 10*d.* to 1*s.* per foot.

Cemented Tank Leaking (*A. B.*).—If the cement tank leaks merely where the pipes enter it, it would be best to plug all up with red lead and a little tow, or lint yarn; if at other places use the same, or fill with the best cement pointed in, and if very bad wet the whole well and put a thin coating of cement all over. With pipes in the tank we would care little about having it water-tight, though it would be as well, but would cover the pipes round and above with 6 inches of open rubble instead. We think 6 feet too far for the bottom pipes to be from the glass for Cucumbers, but you can raise your plants nearer the glass, train with one stem, and bring them to a trellis 20 inches from the glass before allowing them to spread. You may thus do with from 18 to 20 inches of soil over the tank or open rubble. The heat does not act so well when it has to pass a great deal of rubble before reaching the soil.

Dividing a Pit (*A. P.*).—Your brick pit would do for the purpose proposed, and many others besides, and a light, moveable, wooden division would serve the purpose as well as a brick one, and be more handy, as you could shut off one, two, three, or more lights as you thought proper. In such a pit you could have about 30 inches of well-worked sweetened stable manure, well beaten and trampled so as not to sink much, and about 15 inches of soil, which would leave 15 inches to the glass. If at all afraid of the bed sinking, you might have some handy moveable trellis for the Cucumbers. In such a pit depending entirely on the dung at bottom, and sun heat, it would be time enough to plant out Cucumbers and Melons about the end of April or the middle of May. One light, in the mode referred to above, might at first have a deeper bed for raising the plants. When the Cucumbers were over the pits might be used for Radishes, Lettuces, Cauliflowers, or early Potatoes, to be off before wanted for the Cucumbers. If good dung linings could be applied to the outsides of the pit, then the Cucumbers could be planted earlier. If not, it will be better to have a bed in one light from 3 to 4 feet deep for raising the plants (and that can form the top of the larger bed afterwards), and plant out at the times specified.

Twelve Pansies for Exhibition (*J. Hopper.*)—*Selfs:* Eclat, Miss Muir, Queen of the Whites, and Yellow Queen. *Yellow Grounds:* Comus, Clipper, John Downie, and Prince of Wales. *White Grounds:* Alice Downie, Cupid, Lady Lucy Dundas, and Queen.

Names of Fruits (*G. B.*).—1, Nouveau Poiteau; 2, Prince Camille de Rohan; 4, Beurré Diel; 5, Vicar of Wiokfield; 6, Beurré de Jonghe; 7, Beurré Diel; 8, Winter Nelis; 9, Crasanne; 11, White Doyenné; 12, Beurré Diel. (*C. C. E.*).—The Pear marked 2000 is Delauuy. (*C. B., Bawtry*).—3, Beurré Diel; 6, Easter Beurré; 8, Napoléon; 10, Nouveau Poiteau; 11, Thompson's.

Names of Plants (*An Old Subscriber*).—Jasminum gracile, now sometimes called *J. simplicifolium*. (*Mrs. Grosvenor Hood*).—Woodsia obtusa. (*A Greenhorn*).—1, Adiantum formosum; 2, *A. affine*. (*A Lady Subscriber*).—Your Fern appears to us an extreme form of Lastrea Filix-mas, possibly that known as Lastrea elongata. (*J. T. Aldred*).—Cineraria wigandioides; Pteris flabellata. (*P. C., Derbyshire*)—1, Selaginella Kraussiana; 3, S. Martensii; 4, S. cæsia; 2, Asplenium niteus; 7, A. marinum; 5, Blechnum occidentale; 6, Hypolepis repens; 8, Pteris flabellata; 9, Cheilanthes hirta; 10, Adiantum pentadactylon. (*Maggie Willis*).—The name almost illegible on the label of your plant is Monochætum sericeum multiflorum. 1, Cincinalis flavens; 2, Gymnegramma tartarea.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 23rd.

Date.	Barometer.		Thermometer.				Wind.	Rain in inches.	General Remarks.
			Air.		Earth.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 17	30.352	30.214	40	30	49	47	W.	.00	Dense fog throughout; cold wind.
Thurs. 18	30.312	30.279	52	29	46	46	W.	.00	Dense fog; very fine; clear and fine, cold wind.
Fri.... 19	30.281	30.203	57	24	46	46	S.W.	.00	Overcast; cloudy but fine; clear and fine.
Sat.... 20	30.259	30.213	47	19	45	45	N.	.00	Clear and frosty; very fine; clear and fine.
Sun... 21	30.073	29.698	49	33	42	44	W.	.02	Sharp frost; very fine; densely overcast, slight rain.
Mon... 22	29.495	29.412	48	38	45	43	S.W.	.26	Slight rain; heavy rain; cloudy but fine.
Tues.. 23	29.495	29.419	44	26	45	44	N.W.	.00	Densely overcast; dull and overcast; densely overcast.
Mean..	30.038	29.919	48.14	28.43	45.43	45.00	...	0.28	

POULTRY, BEE, AND PIGEON CHRONICLE.

ORGANISATION.

Ever since the Poultry Club, for reasons which it is needless to consider here, found it necessary to commit suicide, I believe the want of *some* recognised and authoritative body, which should in some sense represent "the fancy," has been more or less felt by many of the most intelligent exhibitors and breeders. We do not want to "put down" any particular judges; we do not want something under the control of a few gentlemen who have a "view" (of all social nuisances a gentleman who has a "view" is one of the worst); but I think we do want something to which, year by year, any matters of general interest might be referred, some occasion on which subjects may be discussed, and some tribunal by which any matters on which it is desirable to know the general opinion of "the fancy," might be decided. And I have very often of late thought, that with a little ingenuity all these objects might be accomplished by the Birmingham meeting itself.

I do not wish to be misunderstood, as I should be most grievously, if I were considered as advocating a formal court of appeal to decide disputed points of judging and other similar matters. All such disputes, on the contrary, ought to be strictly prohibited. But matters of interest are continually arising, on which it is desirable people should know "what is to be the law" during the coming season—as, for instance, when hen-tailed Hamburgh cocks were discarded some years ago, or when, as frequently happens, judges find it expedient to lay more stress than formerly upon some particular point. General questions also arise—as when the arrangement of pens was so generally altered, by separating the sexes—on which the opinion of the body of exhibitors is most desirable, if it can be obtained in such a way as will carry weight.

Now that Messrs. Hewitt and Teebay are added, let us hope permanently, to the list of Birmingham Judges, it seems to me that one of the chief obstacles to the attainment of such a desirable object is removed, and that the old Birmingham meeting might with very little trouble, and without a formality which is not to be wished, be made to answer every possible end, be

greatly increased in just influence over the poultry world, and become a pleasant reunion, which should be looked back upon, and looked forward to, during the whole year.

Let us simply suppose that the annual meeting of subscribers at the "Hen and Chickens" had its basis enlarged to admit of any topic generally interesting to the fancy being introduced, either orally or by paper, not exceeding ten minutes in length, provided due and stated notice had been given; suppose all subscribers to be considered members of this—the real "poultry club" of the world, all the judges also being members *ex officio*; and that provision were made for the sense of the meeting being taken whenever desirable on any point, not a merely personal one—I cannot but think great good in many ways would result at a very small expense. And do not let the truly British institution be forgotten. Suppose an annual dinner were held, say at four o'clock in the afternoon on the day found most convenient, the tickets being only obtainable till a week beforehand at a stated sum. Would not such a gathering be a pleasant one? Would not Mr. Hewitt's good-humoured countenance appear more good-humoured still, as he looked round the room on the many whom he has served so faithfully, without charge, during so many years? Would not asperities be softened too? Surely you could hardly feel angry even with the man who had wrested from you the first prize, as you saw him sitting opposite you radiant with smiles, and, to quote Josh Billings, "With as neat a little belly on as ever you seed!" Then after dinner, not before, to business.

Such are some of the thoughts that occur to me, and which I had hoped to have had an opportunity of mentioning in person; but the early date of the Show this year will, I fear, prevent me being present except on the Saturday, and I therefore utter them through "our Journal." It is too late for this season; but still the subject may arouse more interest now than it would do at another time, and a few suggestions from others might lead to something practical for next year, if the obliging Secretary, Mr. Lythall, would be so kind as to give his valuable aid.

I wish distinctly to state that I have no crotchet of my own I particularly want to ventilate at such a gathering. But I do think when a pursuit has attained such a magnitude as the "poultry fancy," and when good fowls can find an almost certain market at the price of a cow, *some* kind of organisation is most desirable, in order to give occasional expression to its collective interests. Now, in the great Birmingham meeting it seems to me we have the material of such an organisation nearly ready to our hands, and that with a little pains the Council and Mr. Lythall might give us what is wanted, and make both a real "poultry club" and an authoritative "standard of excellence" of their great Show.—L. Wright.

CONSEQUENCES OF ASSOCIATING HENS OF DIFFERENT VARIETIES.

In some remarks of yours on the letter of your American correspondent lately, mention is made of a circumstance to which my attention has been drawn before. I had the following statement from a poultry-fancier in Hampshire, who will possibly read this, and who will, I hope, correct any mistake that I may have made. I do not feel at liberty to use his name without his consent, and as I have not his address by me I do not know where to write to him. He will probably authenticate what I say.

Some Spanish hens and Buff Cochin-China hens were kept together, both kinds being carefully bred birds of the best sorts. With them was a Spanish cock equally good. The Spanish chickens were occasionally buff in colour, or with buff feathers. It is some four or five years since the account was sent to me, and I have forgotten these particulars. I mentioned the subject several times to medical men, who gave me reasons why it was physically impossible that any influence could be conveyed by the male bird from one to the other of the kinds of hens—an idea which in the first instance suggested itself to me. There is, therefore, no way left of accounting for the matter in this case, as in that mentioned by yourself, but by the same influences which arose from the rods "pilled" by Jacob, whereby the cattle became "ringstraked, speckled, and grisled."

I regret that I have not tried the experiment of keeping breeding hens in places having stripes of colour painted on them; when I have more time to attend to poultry-keeping again I shall do so. I hope some of your correspondents will in the meantime make the attempt, or will favour us with their experiences in the matter of colour and its changes. I think it is pretty certain that white and black, and white and yellow, are interchangeable colours, whilst red remains unchanged. In evidence of this are the breeding of Pile Game, where all the black feathers of the Black Red become white, as do the golden or yellow feathers, the red feathers remaining of the same colour; and that with age Hondans seem to change the black for white feathers and the white for yellow; whilst there is a tendency also in white birds to throw a yellow tinge.

Some may say, *Cui bono?* I really cannot answer them otherwise than in this way, that there is nothing in the laws of nature which is not worthy of examination, and that the experiments of those who have the leisure to attend to very small matters have often led to the greatest and most valuable results; and this I think a sufficient answer.

I must add that an American contribution to your columns is an event much to be prized. I hope it may be repeated, and that papers from other countries, narrating experience or asking questions, may follow. It is in this way that the sum of human knowledge is made up, and knowledge tends to make men better Christians. Some may smile that poultry-keeping should be thus exalted; but granting the unimportance they would claim for it, they cannot deny that the "mickle" affects the "muckle," and that everything which is done should be done well and with intelligence. Besides which, all that tends to throw men together in fellowship—to make them better acquainted with one another, however simple it may be, is of more value than the most elaborate schemes for fencing about a national or an individual exclusiveness.—Egomet.

OUR POULTRY SHOWS.

I quite agree with "Egomet" in his remarks about "our poultry shows," and the objectionable practice of committeemen exhibiting, some hoping, no doubt, that the prizes they may win will repay them for their subscription and leave something in pocket besides. If shows are to be made a matter of profit or loss to individual managers, let these open business places and manage them as such; but I think most of us look upon poultry and other exhibitions as a means to encourage us to improve the breed of our stock, and to enable those who take an interest in this for the love of it to compete with their fellow amateurs, and to have an opportunity at these competitions to select the best stock for the improvement of the particular kind or kinds which they prefer; also to form a correct idea, from the decisions of experienced judges, of what are the most important points required, that they may endeavour to obtain these in their own breed.

There is another objection that I have not yet seen noticed, and that may not at once occur to your readers, but which I know seriously prevents the more conscientious committeemen from undertaking the arduous and unthankful office. Allowing the committee succeed in pleasing all exhibitors, and have had numerous cheering and satisfactory letters that the owners have received their stock in good condition, &c., three or four of the "pecuniarily disinterested" but hard-working and liberal committeemen, may have all their pleasure damped when they find they must each again subscribe a considerable sum in order that one of their number, equally responsible, although, perhaps, not equally hard-working nor liberal, and certainly not enjoying the other qualification, may be paid his prize money—fairly won, it may be, and probably is—to the amount of, say, £20 or £30, and also let it be the whole amount of the deficiency; in that case it places him in an unenviable position, and his partners in the unpleasant one of feeling that his profit must come out of their pockets.

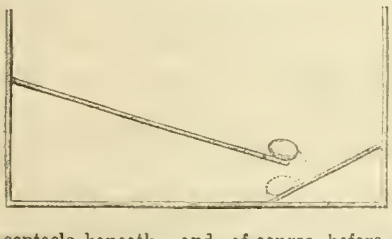
In one instance, I know, an official showed his stock, "not for competition." This is commendable, as it helps the funds in the way of entrance fees and improves the exhibition, and his birds were allowed to be the best in the show. Although a comparatively poor man in worldly goods, he generously gave his time and money, and then had to pay something like a sixth of his yearly income to help to make up the prize-winnings of his much richer fellow official, who had competed for the best prizes, and, it may be, borrowed stock from a friend to enable him to do so successfully. I may say that I am not myself one of these, neither related to nor even on friendly terms with them; but the case is a true one, and I should be glad to see the cause of it discouraged as much as possible. Claude.

Birmingham Show.—With the approach of the period for the holding of the twenty-first of these great annual meetings on

which Birmingham has abundant reason to congratulate itself, the arrangements are progressing with the prospect of a most satisfactory result. As compared with former years, the entries are far above the average, and we are informed that a considerable number of cattle have been refused. The prizes for sheep having been much increased, a grand display is anticipated, particularly from the local Shropshire breeders, whilst there is no doubt that the exhibition of pigs will maintain its character as one of the first in the kingdom. The raising of the fees on poultry has slightly diminished the numbers; but 2500 pens of nearly every known variety of fowls and Pigeons will certainly be as many as most visitors will care to inspect. The root and corn show forms a most useful and interesting feature, and will be far better than anticipated in the earlier part of the season. As regards the space appropriated to implements and miscellaneous articles, we understand that the applications for its allotment have been unprecedentedly numerous—so much so, indeed, that in nearly all cases they have had to be curtailed. Concerning the probable attendance, we have to state that the facilities afforded by the railways for the conveyance of visitors from other parts of the kingdom, by special and other trains, will be much increased by the recent opening of branch lines, and by the liberality of the concessions made by the various companies in this respect, the excursion trains being most numerous and at particularly low fares, the districts from which these run comprising the whole of Yorkshire, Lancashire, Wales, Salop, Northampton, Leicester, Derby, Cambridge, Cheshire, Hereford, Gloucester, Worcester, &c.

HENS EATING THEIR EGGS.

I HAVE been pestered with cannibal hens; but, by a contrivance of my own, I have completely put a stop to their cannibalism, without the trouble of watching or the necessity of killing the offenders. My plan consists simply in an improved nest or laying box (see accompanying section) with a false bottom, forming an inclined plane, down which the egg rolls as soon as laid, into a receptacle beneath; and, of course, before the hen can have a chance of pecking it, the egg is beyond her reach. Neither hay nor straw must be used in the nests, but if the surfaces of the inclined planes are covered with smooth matting, a piece of old carpet, or sacking, every purpose will be answered. Another advantage of this laying box, is that where several hens use the same nest, the eggs are not soiled by their dirty feet in wet weather.—TYPO, *Southport*.



ENGLISH SKY TUMBLER PIGEONS.

SOME months ago I wished to raise a new cote or loft of our old English Sky-Tumblers, and found the breed extinct, or too scattered, for selection. The little light blue, or black, and mahogany, whole colours, were my fancy. I looked your Journal over and over for weeks, and inquired far and wide without success. Lots of Short-faces (useless except as aviary pets), and clumsy cross-breeds, I found, but the tidy, tiny, English acrobat, Swallow-form, and that would fly like a Lark in the sky, was not to be found. I wanted a fresh stream of this blood, and it proved to be exhausted in the country.

Well, I procured a draft of half a dozen birds from Birmingham, warranted to fly and tumble—not Rollers that lose flight and fall—as well as the old English breed—namely, to fly high and close, and cast single rapid tumbles, almost quick as lightning, and keep up any time desired. These birds are of larger form than the little English Tumbler; blue, black, and red, with white flights, but not white tails, pearl eyes, and clean coral legs, and their aërial performances are good, though not so agile as those, I think, of the smaller English breed.

In breeding, these birds throw muffed or feather-legged offspring occasionally, indeed often, hence I infer a continental origin—German or Dutch probably; and I conclude that they are a cross between the continental and English Tumbler, and betray their foreign connection by throwing the muffed-legged young birds, breeding back frequently: some young are clean, others muffed, on the legs in the same nests.

Can you inform me and other fanciers, if a mixed English and continental breed of Tumblers is bred in Birmingham for flying, as these birds, I assume, are bred and drawn from a cote of such birds?—READER.

[Your birds have evidently a cross. Most probably they were bred from English on one side, and part Roller on the other. You need not despair of getting the old English whole colours, red and buff; the former you term, not unaptly, mahogany colour. In Birmingham you will not find them, but John Hobbs, dealer, Friar Bridge, Bath, will get them in a few weeks or months, or even days, as in the west of England—the quiet unchanging west—they are still kept, and with their tidy form, clear pearl eyes, and coral feet, without even the suspicion of a feather, are among our best Pigeons for general purposes of amusement and interest. We have seen beautiful Buff ones at Hobbs's within the last year. Black and Blue are not to be had so easily. The Birmingham Roller is the most vulgar of all Tumblers, and if it were extinct to-morrow it would be well, but, unfortunately, it suits those who only care to see the feat of turning over in the air constantly repeated, and these birds crossed with bad-bred Short-faces fill the bird shops. If our memory serve us rightly, Blue birds, such as you want, have been advertised during the last two years in this Journal.—WILTSHIRE RECTOR.]

A QUID PRO QUO.

"AN OLD COMMITTEEMAN" thinks my letter of November 11th "more amusing than instructive." I meant it to be amusing. I did not see any reason for attempting to make it instructive. The inference, however, which I wished to convey, your correspondent has correctly drawn in his own words—namely, that committeemen should not exhibit at their own show.

"AN OLD COMMITTEEMAN" thinks that I should have pointed out the way to induce committeemen "to work, without that '*quid pro quo*,' a fair chance of the prizes" at their own show. I do not see any necessity for doing so. If committeemen desire anything of the kind, then they are hirelings, with an indirect and inadequate wage. I say that, as a body, they do not require any such reward. If I am wrong, it is better that poultry exhibitions should decline, as the "OLD COMMITTEEMAN" seems disposed to think they would. Such is not likely to be the case, however, as committeemen who do exhibit in their own show are, in the average of shows, but a small minority; and I am satisfied that many of those committeemen who now exhibit under these circumstances, would withdraw from competition the moment their attention was called to the matter.—EGOMET.

THE GUINEA FOWL.

I VENTURE to call the attention of poultry lovers and fanciers to that very beautiful, useful, interesting, but very much neglected bird, the Guinea fowl.

I have looked in the list of nearly every poultry show that has appeared in "our Journal," and I have never once found any notices of it, if I remember aright. Now, why is this? In every poultry book I have seen there is, at the end of the chapter on various kinds of poultry, a notice of about a dozen lines, dry, uninteresting, and cold, declaring the bird to be wild, useless, clumsy, ugly, a bad mother, its flesh horrid, its peculiar cry worse than all. People read and believe this, and give the poor Guinea fowl no place in their pen, yard, or enclosure.

Now, I flatly contradict all this. With proper care and kindness the Guinea fowl is no wilder than the Turkey, and does not stroll away or lay in worse places than the Turkey. It is a far more loving mother, although it sits so late in the autumn that it is advisable to place its eggs under another hen. The eggs themselves are excellent though rather small, and the flesh is beautiful (I speak from personal experience), tasting very like pheasant. As for the bird's peculiar cry, persons who have lived in the country all their lives, who have been surrounded by all kinds of living creatures, and who are awakened every morning by the cackling of Geese, quacking of Ducks, crowing of cocks, clucking of hens, and chirping of chickens, will acknowledge that they could scarcely hear it, and certainly never care for it; while those other persons who are afflicted with delicate nerves had better not keep poultry.

We have kept Guinea fowls for years, and have made great

pets of them. One in particular is so extremely tame that if the henwife does not give it what it wants it "ketches" (as she expresses it), hold of her skirt, and pulls it until she yields to its wishes; it also sits on her knee at dinner, and does not scruple to help itself to any tit bit. This pet bird rejoices in the name of "Moses" although of the softer sex, and comes in and ont of the house as it pleases.

We have had very little difficulty with our Guinea fowls. They were reared so tame that they seldom laid away. The worst was the rearing; in 1866 the mortality among the chicks was great, but it was in autumn, which, as we all know, was "dark and dreary" in the extreme. If they are treated exactly as young Turkeys they will do very well, but they grow so fast that they require food every half hour.

I have now "said my say" about Guinea fowls, and I hope that some of the readers of "our Journal" may respond to this as they have done to "One of Many Witnesses."—Ida.

TURKEYS WITH SKINS TURNING YELLOW.

A lot of fine Turkeys, and seemingly in good health, have recently turned quite yellow in their skins. The food given is barleymeal and mangold wurtzel. They have run in the park, and have no doubt picked up considerable quantities of acorns, hawa from the thorn trees, and beech nuts, with which the ground has been literally strewn. They have had the same park run in previous years, which has not been followed by this unwelcome yellowness of skin.—C. L. M.

[Mangold wurtzel has the effect of rendering the fat of bullocks intensely yellow, and it is probable that it has the same influence on the fat of Turkeys. When one is killed the layer of fat beneath the skin in such case will be found to be very yellow.—Eds.]

AYR ORNITHOLOGICAL SOCIETY'S SHOW.

The eighth annual exhibition of this Society took place in the Assembly Rooms, Ayr, on the 13th inst., and was admitted by competent judges to be, as regards the number and quality of the birds, the best which has been held in Scotland, out of Glasgow, for many years. In the absence, from illness, of James Hnie, Esq., of Glasgow, his place as Judge was well supplied by Messrs. A. Cowan, G. Steele, and A. Glass, the latter of whom handsomely withdrew his birds from their pens to save all grounds for reflection. The following were the awards:—

PIGEONS.

Pouters (Young).—1, J. Sharp, Johnstone. 2, D. Munn, Kilmarnock. 3, A. Wright, Edenbank, Morningside, Edinburgh. *vhc*, J. Mair, Kilmarnock. *hc*, D. Young, Ayr. *c*, G. B. Phillips, Dalblair House.

Pouters.—1, J. Waddell, Acrehead, Dumfries. 2, J. Butler, Glasgow. 3, J. Mair. *vhc*, J. R. Adam, Ayr. *hc*, J. Scoular, Kilmarnock. *c*, J. Finlay, Lanrieston, Edinburgh.

Carriers.—1, J. Mair (Black). 2, D. Munn (Black). 3, G. Dart, Acrehead, Dumfries (Dun). *vhc*, Miss E. Beveridge, Ayr (Dun). *hc*, W. Crawford, Beith (Black).

Tumblers (Short-faced).—1 and 2, W. W. Beveridge, Ayr (Almonds and Kites). 3, J. Mair (Yellow). *vhc*, J. Sharp (Almonds). *hc*, W. W. Beveridge (Almonds). *c*, W. W Beveridge (Splashed).

Barbs.—1, W. Crawford (Yellow). 2, J. Sharp (Black). 3, Miss Beveridge (Black). *vhc* and *hc*, G. Dart (Black and Red). *c*, J. Mair (Black).

Fantails.—1 and 2, J. Sharp (White and Blue Saddles). 3, Miss Beveridge (White). *vhc*, R. Gibson, Kilmarnock (White). *hc*, W. Crawford (White). *c*, Miss Beveridge (White).

Jacobins.—1, W. McKinlay, Kilmarnock (Red). 2, J. Mair (Red). 3. Miss Beveridge (Black). *vhc*, C. Murdoch, Corton, Ayr. *hc* and *c*, Miss Beveridge (Red and Yellow).

Trumpeters.—1, D. Munn (White). 2, J. Sharp (Black Mottle). 3, M. Skinner, Edinburgh (Black). *vhc*, J. Mair (Mottle). *hc*, R. Banks, Broomberry (Black). *c*, Miss Beveridge (Black).

Turbits.—1 and 2, J. Waddell (Yellow and Black). 3, Miss Beveridge (Red). *vhc*, J. Scoular (Blue). *hc*, Miss Beveridge Yellow). *c*, J. Sharp.

Owls.—1, J. Mair (Silver). 2, Miss Beveridge (Blue). 3, J. Sharp *hc*, R. Gibson (Blue). *c*, Miss Beveridge (Blue).

Nuns.—1, W. McKinlay. 2, D. McCreath, Forehill. 3, T. Imrie, Bourtree Park. *hc*, R. Gibson.

Tumblers (Common).—1, J. Sharp (Black Mottles). 2, W. W. Beveridge (Red). 3, J. Grunton, Wallacetown (Black). *vhc*, W. Crawford (Blacks). *hc*, W. W. Beveridge (Red Mottles). *c*, J. Grunton (Yellow).

Any other Variety.—1, J. Sharp (Magpies). 2, T. Imrie (Black Priests). 3, Miss Beveridge (Magpies). *vhc*, J. R. Adam (Black Magpie). *hc*, Miss Beveridge (Dragoons). *c*, J. Grunton (Common).

Selling Class.—1, Miss Beveridge (Pouters). 2, D. McCreath (Nuns). 3 and *vhc*, Miss Beveridge (Pouters and Fantails). *hc*, W. W. Beveridge (Blue Beards). *c*, D. Munn, (Trumpeters).

CANARIES.

Yellow (Young).—*Cocks.*—1, J. E. Graham, Kilmarnock. 2 and 3, J. Conn, Annick Lodge. *Hens.*—1, R. Crawford. 2, D. Holden. 3, J. Graham.

Buff.—*Cocks.*—1, R. Crawford, Kilbirnie. 2, E. Brangan. 3, J. Graham. *Hens.*—1, R. Crawford. 2, J. Langhland. 3, W. Paterson.

Piebald (Yellow).—*Cocks.*—1, T. M'Murtrie, Riccarton Toll, Kilmarnock. 2, J. Scoular. 3, R. Stevenson, Galston. *Hens.*—1, J. Scoular. 2, A. Hamilton. 3, G. Hamilton.

Piebald (Buff).—*Cocks.*—1, J. Scoular. 2, E. Brangan. 3, G. Hamilton. *Hens.*—1, R. Stevenson. 2, M. Adam. 3, H. Calder.

Goldfinch Mule (Yellow).—*Cocks.*—1, J. R. Adams. 2, T. Murtrie.

Goldfinch Mule (Buff).—*Cocks.*—1, W. Goudie, Mainholm. 2, J. Laughland.

Parrots (Shell).—1, R. Boyd, Ayr. 2, W. Robertson, Newton.

Parrots (Any colour).—1, Capt. Kidd. 2, C. Hill.

MEMBERS' COMPETITION.

Yellow.—*Cocks.*—1, M. Adam. 2 and 3, W. Morrison. *Hens.*—1, W. Morrison. 2 and 3, J. Adams.

Buff.—*Cocks.*—1, W. Smith. 2, J. Adams. 3, M. Adam. *Hens.*—1, W. Smith. 2, W. Kerr. 3, J. Adams.

Piebald (Yellow).—*Cocks.*—1, W. Kerr. 2, W. Morrison. 3, J. Adams. *Hens.*—1, H. Calder. 2, J. Adams. 3, W. Morrison.

Piebald (Buff).—*Cocks.*—1, W. Smith. 2, J. Adams. 3, M. Adam. *Hens* —1, M. Adam. 2, W. Smith. 3, J. Adams.

Goldfinch.—1, 2, and 3, A. Hunter.

The Judges of *Canaries* were Messrs. J. McCulloch and McKenzie, of Ayr, J. Graham, Kilmarnock, and G. Haddon, Kilwinning: for *Foreign Birds*, Mr. J. Sinclair, Ayr.

THE LIVERPOOL POULTRY SHOW AND SALE

BY AUCTION AT MESSRS. LUCAS' REPOSITORY.

Few amateurs anticipated so successful a result as accompanied this spirited adventure. Messrs. Lucas offered as premiums eleven silver cups as first, and an equal number of sovereigns for second, prizes to the principal classes of poultry. These brought together a considerably better collection than is to be met with at the generality of our poultry shows. The cups were unusually good. Every cup of the eleven, otherwise altogether plain, was ornamented by a shield, on which the variety of poultry that won it was artistically depicted. These cups, it is worthy of note, were intrinsically fully worth the five guineas; they each represented a subject that might with benefit be copied by not a few of our poultry committees; 246 pens were received, and we are informed, that though the bulk were sold at most remunerative prices, the highest figure obtained for a single specimen was £12.

Dobkings.—Cup, Admiral Hornby, Prescot (Grey—sold for £5 4*s.*). 2, J. Copple, Eccleston. *hc*, W. W. Rutthidge, Shortend, Kendal (Grey and Silver-Grey); E. Leech, Rochdale; R. Smalley, Lancaster (Silver-Grey). *c*, T. Briden, Earby, Skipton.

Game.—Cup, J. Wood, Haigh, Wigan (Black-breasted Red—£6 8*s.* 6*d.*). 2, J. Fletcher, Stoneclough, (£10 10*s.*). *hc*, J. Fletcher (£8 8*s.*); T. Mason. *c*, J. Statter.

Cochins.—Cup and *hc*, Bowman & Fearon, Whitehaven (Buff and White). 2, C. Sidgwick, Ryddlesden Hall, Keighley (Buff). *c*, C. Sidgwick (Partridge); J. Clark, Thirsk, Yorkshire (Partridge).

Brahmas.—Cup and *hc*, W. Gamon, Chester (Dark—£6 12*s.* 6*d.*). 2, E. Leech. *c*, Rev. J. Chapman, Elkesley (Dark).

Spanish.—Cup, H. Beldon, Bingley (£4 17*s.* 6*d.*). 2 and *hc*, E. Comber, Myddleton Hall, Warrington (Black).

Hamburghs.—Cup, A. Woods, Sefton (Golden-spangled). 2, H. Pickles. jun., Earby, Skipton. *hc*, J. Fielding, Newchurch (Silver-spangled); F. D. Mort, Stafford (Golden-pencilled); A. Woods (Silver-spangled and Silver-pencilled). *c*, W. Speakman, Nantwich (Golden-pencilled); H. Beldon, Bingley.

Polands.—Cup, W. Gamon. 2, E. Comber. *hc*, H. Pickles, jun.; W. Gamon; H. Beldon. *c*, T. Wakefield, Golborne.

Bantams.—Cup, G. Maples, jun., Wavortree (Black Red Game). 2, J. Crosland, jun., Wakefield (Black Red Game). *hc*, J. Halsall, Ince (Black Red); R. N. Barlow, Wrexham (Black Red Game). *c*, D. Young, Leamington (Black-breasted Red Game).

Ducks (Any variety).—Cup, T. Wakefield (Rouen—£7 11*s.* 6*d.*). 2, A. Woods (Rouen—£3 12*s.*). *hc*, E. Leech: Bowman & Fearon (Aylesbury); M. Gamon (Rouen); A Well-known Breeder (Rouen); R. Smalley (White Aylesbury and Black East Indian).

Game Cock (Any variety).—Cup, J. Wood (Brown-breasted Red—£12 2*s.* 6*d.*). 2, J. Statter. *hc*, E. Aykroyd, Bradford; Admiral Hornby (Red); J. Statter (Black Red). *c*, T. Myson.

Game Bantam Cock (Any variety).—Cup, T. Halsall. 2, G. Maples, jun. (Black Red). *hc*, T. C. & E. Newbitt, Epworth (Black Red); J. Crosland, jun. (Black Red); J. Statter (Duckwing); Bowman & Fearon; H. J. Nicholson, Holborn Hill, Cumberland (Black Red). *c*, H. Pickles, jun. (Duckwing).

Mr. Hewitt, of Birmingham; and Mr. Hindson, of Liverpool, were the Judges.

GLOUCESTER ORNITHOLOGICAL SOCIETY'S SHOW.

This Show, held at the Working Man's Institute, Southgate Street, Gloucester, opened on the 23rd inst., and will conclude this day. The *Cochin-Chinas*, Silver-spangled *Hamburghs*, and Rouen *Ducks* are very good, while among the *Pigeons* some of the specimens are excellent. The *Cage Birds* are of a very superior class to those commonly seen. The following is the prize list:—

Spanish.—1 and 2, D. Lane.

Dorkings.—1, E. Cooksey, Tuffley. 2, F. Gainer. *hc*, W. Stephens, Highnam.

Cochin-China (Any variety).—1, W. Sims, Stroud (Buffs). 2, G. Heath, Nailsworth (Buffs). *hc*, C. Taylor (Buffs).

Brahma Pootra (Any variety).—1, W. Sims (Dark). 2, C. Taylor (Dark). *hc*, J. Cooke, jun., Cainscross, Stroud (Dark); R. Blick (Dark).

Game (Any variety).—1, C. Taylor (Black-breasted). 2 and *hc*, J. Smart (Black Red and Pile).

Hamburghs (Golden, any variety).—1, R. Blick. 2, G. Heath.

Hamburghs (Silver, any variety). — 1, W. Stephens (Silver-spangled). 2, J. Aldridge (Silver-spangled). *hc*, J. Sallabank (Silver-spangled); J. Clutterbuck (Silver-spangled). *c*, J. Clutterbuck (Silver-spangled).

Polish (Any variety).—1, E. Cooksey (White-crested). 2, R. Blick (Golden). *hc*, R. Blick (Silver); W. Conway (Silver).

Any other Distinct Variety.—1, C. Taylor (Crève-Cœur).

COCKERELS.—1, C. Taylor (Crève Cœur). 2, G. E. N. Rawlinson (White Cochin.)

BANTAMS (Black-breasted and other Reds).—1 and 2, J. Mayo. *hc*, C. W. Washbourne; G. E. N. Rawlinson; D. Evans. *c*, C. W. Washbourne.

BANTAMS (Duckwings and other Greys).—1, J. Mayo. 2, C. W. Washbourne.

BANTAMS (Sebrights, any variety).—1 and 2, J. Mayo (Silver).

BANTAMS (Any other variety).—1 and 2, J. Mayo (Black and White).

DUCKS (Any variety).—1, 2, and *hc*, W. Stephens (Rouen).

PIGEONS.

CARRIERS (Any colour).—1, 2, *hc*, and *c*, J. Mayo (Black and Dun).

DRAGOONS (Any colour).—1, D. Lane (White). 2, F. G. W. Gainey.

TUMBLERS (Short-faced).—1, E. Stephens. 2, J. Mayo (Almonde).

TUMBLERS (Any variety).—1, E. Williams (Blue Balds). 2, C. W. Washbourne (Black Balds). *hc*, W. Stephens (White Rollers).

POUTERS (Any colour).—1, D. Evans (Red Pied). 2, W. David (Blue).

BARBS (Any colour).—1, F. J. W. Gainey (Black). 2, D. Evans (Black).

FANTAILS (Any colour).—1, E. Stephens, Ebley, Stroud (White). 2, F. Clark (White).

MAGPIES.—2, F. J. W. Gainey (Black and White).

ANY OTHER DISTINCT VARIETY.—1, C. W. Washbourne (Black Jacobins). 2, E. Stephens (Red Jacobins).

CANARIES.

NORWICH (Clear Yellow).—1, G. E. N. Rawlinson. 2 and *c*, W. David. *vhc*, R. Stone. *hc*, G. E. N. Rawlinson; J. Aldridge; R. Stone; W. David; J. Wood; G. Clapham, Upton St. Leonards.

NORWICH (Clear Buff).—1 and 2, G. E. N. Rawlinson. *vhc*, G. E. N. Rawlinson; J. Aldridge; W. David. *hc*, G. E. N. Rawlinson; R. Stone.

YELLOW (Ticked).—1, G. E. N. Rawlinson. 2, W. Williams. *vhc*, G. E. N. Rawlinson; J. Sallabank. *hc*, J. Wood.

BUFF (Ticked).—1, R. Woodward. *vhc*, J. Sallabank. *hc*, J. Wood.

YELLOW (Marked or Variegated).—1 and *vhc*, R. Stone. 2, G. E. N. Rawlinson. *hc*, R. Woodward; J. Sallabank; J. Wood.

BUFF (Marked or Variegated).—1, R. Stone. 2, J. Wood. *hc*, G. E. N. Rawlinson; J. Wood.

NORWICH.—*Clear-crested*).—1, R. Stone. *Clear-crested Buff*.—1, J. Sallabank. (Remarkably good crest.)

YELLOW (Variegated Crested).—1 and *vhc*, R. Stone. 2 and *hc*, J. Sallabank.

BUFF (Variegated Crested).—1 and 2, R. Stone. *vhc*, R. Stone; J. Sallabank. *hc*, J. Sallabank. (A superior class.)

BELGIAN (Any other variety of Yellow, Buff, or Variegated half-bred).—1, G. Clapham. 2 and *vhc*, J. Aldridge.

CINNAMON (Jonque).—1, R. Stone.

CINNAMON (Mealy).—1, R. Stone. 2, J. Wood.

CINNAMON (Any other variety of Yellow or Buff).—1 and 2, R. Stone.

BUFF OR MEALY PLAIN.—1, J. Wood.

MARKED OR VARIEGATED BUFF PLAIN.—1, 2, and *vhc*, J. Edwards.

MULE (Jonque Goldfinch).—1, E. Hopton. 2, J. Cox. *vhc*, J. Aldridge; R. Stone.

MULE (Mealy Goldfinch).—1, R. Stone. 2, J. Aldridge.

BULLFINCH.—1, G. Clapham. 2, J. Cox. *vhc*, R. Stone. *hc*, R. Woodward.

GOLDFINCH.—1, R. Stone. *vhc*, G. E. N. Rawlinson. *hc*, E. Hopton; J. Cox.

LINNET.—1, E. Hopton. *vhc*, J. Cox. *hc*, R. Stone.

SKYLARK.—1, *vhc*, *hc*, E. Hopton.

SONG THRUSH.—1, J. Hunt. *vhc*, G. Smith.

COLLECTION OF CANARIES IN CAGE.—1 and *c*, R. Stone. 2, J. Sallabank. *vhc*, J. Aldridge; J. Edwards; R. Stone. *hc*, R. Woodward; G. E. N. Rawlinson; J. Wood.

JUDGES.—*Poultry* and *Pigeons:* Mr. Yardley, Market Hall, Birmingham. *Canaries* and *British Birds:* Mr. George Moore, of Northampton.

INFLUENCE OF CLIMATE ON PLUMAGE.

I ENCLOSE a feather of a Dun Pigeon—it will be curious to mark the effect the climate has had upon the plumage, leaving a white margin almost around it. I have noticed the same effect in England, but not to so great an extent. I find fowls affected towards moulting time, much in the same way, and the wild Turkey even moulting darker than the old feathers. Taking all these facts into consideration, judges at shows should exercise discretion with regard to the points for plumage at autumnal exhibitions. People not aware of the effect of climate and light are very apt to be deceived in purchasing birds affected by this cause.

The bills, also, of Aylesbury Ducks and Embden Geese suffer much from exposure to the sun. Birds intended for exhibition should be sheltered during the very hot sun, and kept dark or in shade; but no amount of sun will bring black spots, which are a decided disqualification. These may, even in young specimens, be detected under the skin, of a reddish colour, and thus you are enabled to select those with pure-coloured bills, and reject the others for exhibition or breeding, making use of them for the table. But in spite of every inattention, a pure Aylesbury Duck will never get the orange bill of a Call Duck; a fact which should be impressed on inexperienced purchasers, because no common Duck can compete in any way with an Aylesbury.—F. C. H.—(*Canada Globe.*)

MR. PETTIGREW'S COMMUNICATIONS.

ALLOW me to join with the "DEVONSHIRE BEE-KEEPER" in expressing a desire that Mr. Pettigrew will continue his communications, for they have the rare merit of setting one thinking. And that they do good, is proved by the fact, that since Mr. Pettigrew ventilated the question of large hives last year, Messrs. Neighbour have considerably increased the size of their popular cottage hive.

I doubt not but a like beneficial result to the public will accrue from his drawing attention to the subject of spurious honey at this time. If anyone doubts whether supers can be raised successfully and profitably by means of sugar syrup, let him try, if he know how, and communicate the results to "our Journal" this time next year.—S. B.

QUEEN ENCASEMENTS.

IN the early part of 1865, some very able and interesting papers on "Queen Encasements," from the pen of Mr. Lowe, appeared in your Journal. It is there laid down as a rule, that these encasements continue for a period of from twenty-four to thirty-six hours, the latter being the longest which had been experienced by Mr. Lowe. The conclusions at which this gentleman arrived as regards the cause of encasements are shortly summed up thus:—

1st, That queens may be encased or imprisoned by reason of the entrance of stranger bees into a hive.

2nd, From superannuation and infirmity through age, or from any natural defect in their procreative powers, such as exhausted fertility.

3rd, Young queens may be encased or imprisoned when unfecundated beyond a certain age, and when in an abnormal condition.

A case in my apiary having lately occurred which, both as regards time and cause, cannot be accounted for on Mr. Lowe's theory, I am induced to forward to you the particulars, believing that they will prove interesting to apiarians in general. The facts are as follow:—

On the 1st of the present month I introduced to a strong stock of black bees, which had been deprived of their queen forty-eight hours previously, an extremely fine, healthy, and beautifully marked Ligurian queen, procured for me, from her native Alps, by Mr. Pettitt, of Dover. The method of introduction was simply that of presenting the queen through the central orifice in a Pettitt's bar-frame hive to her future subjects. I may here state that my reason for adopting so simple, and as some may think dangerous, mode of introducing a strange queen, was the loss of two Ligurian queens a short time previously by attempting to introduce them, in accordance with the usual plan, by imprisonment for twenty-four hours in a queen-cage. On opening the cages both queens were found dead, either from cold, as I imagine, or from being separated for so long a time from worker bees.

The queen was immediately imprisoned by encasement in the midst of a number of bees, so closely packed together in a small circular knot of about the size of a tennis-ball that it was impossible to get a sight of her, or to come to any other conclusion than that of her speedy death from suffocation. I determined, however, at all risks, to allow the bees to follow their own instincts, and on examination the following day, November 2nd, the encasement still continued. I now had the curiosity to separate the bees, which was effected with some difficulty, by means of a stout goose-quill, and to my surprise found the queen alive and well, although somewhat exhausted by the close embraces of her new subjects. After a respite of ten minutes, during which she was placed under a tumbler near the fire, the morning being very cold, the poor queen recovered her full powers, and was again introduced to the bees, again encased, again set free by main force on the day following, and, to render my story short, the same course was followed daily until Friday the 5th of November, on which day I had the pleasure of finding her at liberty, and receiving all due homage. After the first day's imprisonment I had noticed, on daily extricating this queen, that she was evidently well nurtured and cared for, and on finally obtaining her liberty was in fine condition, exhibiting evident signs of oviposition.

To what cause can we assign this long imprisonment? For my own part I am inclined to attribute it to extreme affection, and delight on receiving a queen after forty-eight hours' deprivation. Fear of again losing her, upon whom, as by wonderful instinct, the bees seem fully aware the future hopes of the colony depend, may also have influenced their actions. However this may be, there can be no doubt that their intentions were not regicidal, for their purpose was easy of accomplishment,

if such it had been, and there was no attempt to use the sting, or to seize the legs or wings of the prisoner—a usual mode of attack.

If any of your correspondents, skilled in apiarian science, can throw light on these mysterious queen encasements, they will confer, I doubt not, a favour on many of your readers who are interested in the natural history of the honey bee.

In conclusion, allow me to ask if it has ever occurred to modern apiarians that Virgil's beautiful description of the "*duo genera*" in Georg. iv., vv. 67-99, the—

> "Alter erit maculis *auro* squalentibus ardens,
> Nam duo sunt genera, hic melior, insignis et ore,
> Et rutilis claras squamis . . . . ."*

could have applied to the Apis ligustica, the modern Italian Alp bee? Several parts of his description would seem to favour this hypothesis. For instance, we have again—

> ". . . . elucent alvi et fulgore coruscant
> Ardentes *auro*, et paribus lita corpora guttis.
> Hæc *potior soboles*: hinc cæli tempore certo
> Dulcia mella premes; nec tantum dulcia, quantum
> Et liquida . . . . ."†

What more true and beautiful description could we desire of this exquisite variety of the Apis mellifica?—G. Raynor, *Tonbridge*.

SPURIOUS HONEY.

I extract the following passage relating to this subject from a private letter recently received from Ayrshire.—A Devonshire Bee-keeper.

Some one has been accusing us of giving our bees sugar to fill up their honeycomb with. I have made inquiries among some of the greatest bee-masters in this county, and they tell me that they have found out by actual trial that instead of imposing on their customers they would lose by it, for they say that they found it took 60 lbs. of sugar to make 20 lbs. of honey: so I think Mr. Pettigrew has found a "mare's nest." Honeycomb of the best quality is so cheap here (about 1s. a lb.), that it would not pay to make up a honey box with sugar. I had about 600 lbs. of surplus honey this last season, and I find the centrifugal machine is a great invention.—H. B.

* There are two sorts; the better glows with spots of gold, has a more beautiful person, and shines with bright scales.

† The others shine, and glitter with brightness, being spangled with gold and equal spots. This is the best sort. From this at certain seasons you shall squeeze sweet honey, and not only sweet, but pure.

OUR LETTER BOX.

Hens Eating their Eggs (*M. Y.*).—The habit is supposed to arise in the first place from the lack of the necessary material for forming the shell of the egg. It is in this case prevented by supplying their run or house with plenty of bricklayers' rubbish, such as old ceilings, mortar, &c. If they have this and still peck their eggs, it is from a bad state of the body. The only cure we know, is to put some very hard composition eggs in the nest. They peck them till their beaks are sore, and become tired of it. But prevention is to be preferred, therefore we recommend to your attention the form of nest described by a correspondent in our Journal to-day.

Chester Poultry Show.—Mr. Eggleston, Savile Mills, Halifax, informs us that he took the first prize for English Owls; Mr. Graham, second; and Mr. Crosland was not mentioned. Mr. Walters has sent us a letter he received from the railway office relative to the charge of an extra sixpence. The charge was made by Chaplin & Horne for conveying the birds from the Show to the station, and the Committee of the Show had not undertaken to deliver them free from charge.

Roup (*T. Y. P.*).—Extreme cases should be treated with Baily's pills, but incipient cases, which are very often only bad colds, may be cured by giving camphor pills, two the size of a pea for a dose, and feeding for a day or two on bread and ale.

Wortley's Incubator (*Inquirer*).—You should inquire of Mr. Crook.

Barren Aylesbury Ducks (*Perplexed One*).—If you know the Aylesbury Ducks are barren, they are not such as should be shown. We have, nevertheless, no doubt that more than half the very heavy Aylesburys are certainly barren, and many of them known as such. We do not believe your Ducks are barren; if you were to tell us you founded your opinion on the fact that they did not breed this year, we would advise you to try them next year with another drake. The drakes are very often barren from accident. If you are sure that your birds are barren, do not send them. We are decidedly of opinion that they are not, and, therefore, we should not hesitate about exhibiting them.

Dark Buff Cochin Plumage (*A Subscriber*).—The under tail of a Cochin hen is always dark, almost black. In both cock and hen a buff tail is preferable.

Houdan Cock's Spine Injured (*Chemicus*).—The cock with infirm gait and now contracted feet is injured in the spine; that causes the contraction and partial paralysis. It is generally fatal. The treatment will be to put the bird in some place where he can have the flooring covered with hay or straw, to feed well, and, above all, to administer stimulants—ale, camphor, and sometimes a table-spoonful of port wine. This paralysis must not be confounded with the weakness to which heavy birds are subject from over-growth. That, if the birds are well treated, is cured from the day the bird ceases to grow. The slightest blow on the back of a fowl will cause paralysis and often death. Crooked breast-bones are often hereditary, and sometimes caused by roosting. Fast-grown chickens are weak and often too heavy for their half-formed leg-bones. This induces them to rest on their knuckles on the ground by day; but at night, when perching, their legs are not strong enough to hold them steadily on their perches, and they are obliged to allow their breasts to rest. If, then, the perch be small, the cartilaginous bone of the breast is susceptible of change, and takes the form of a narrow perch. The cure is to put one some inches in width.

Fowls in Confined Space (*E. J.*).—You can keep either Cochins, Brahmas, Spanish, Houdans, or Crève-Cœurs. Our experience is, they bear confinement better than the Hamburghs. Only the first two of those we have named are sitters. The Pencilled Hamburghs are called everlasting layers.

Feeding Golden-spangled Hamburghs for Exhibiting (*For West*).—Ground oats mixed with milk, occasionally a few peas and some bread and ale, a little whole barley once per day. If it is not in their haunts they require green food, and should have daily a large sod of growing grass cut with plenty of mould.

Southampton Poultry Show.—We are informed that the second prize for Light Brahma chickens was awarded to those of Mrs. Turner Turner, Avon, near Ringwood.

Houdan Cockerel with Crooked Breast (*C. J. S.*).—Most certainly we should not breed from such a bird. Crooked breasts and wry tails we know to be hereditary defects.

White Muscovy Ducks (*R. O. P.*).—The White variety of the Musk or Muscovy Duck would be profitable to keep if there were any market for the produce, but they are birds that are seldom wanted or asked for. They are scarce. The habits of the drake of all colours of this breed are sufficiently objectionable to banish him from all yards and ponds. They are not so prolific layers as other Ducks, and we consider them unprofitable.

Pigeons Healthy or not (*Foncier*).—The bird may be of a very wild nature, hence its quick breathing and death-like fright when caught. Without seeing it no one could properly decide whether it is diseased or only very timid. We advise you to ask some independent fancier or judge in your neighbourhood to decide the point, but we incline to think it healthy.

Feeding Beans for Exhibition (*N. A. D.*).—Good old beans are best as they brighten the plumage; a little old wheat mixed with them would do no harm. The beans must be small.

Matching various Pigeons (*H. T. Kelsey*).—The advice we gave you recently is applicable to the Black hen Barb being crossed with a Red cock. The matching a Yellow Fantail with a White would spoil both. Colours, like breeds, are best kept distinct.

Pigeon Shot, &c. (*A Young Beginner*).—Sue, in the County Court, the person who shot your Pigeon for the value of bird. Antwerps would suit you best for homing from a distance, or Dragoons.

Food for Grey Parrot (*Peter*).—Bread and milk are the best food. Cut the bread in slices, and pour over it warm water; let it soak a short time, and squeeze it as dry as possible; then allow it to absorb as much fresh boiled milk as it will without being too moist. Give occasionally broken biscuit, nuts, and fruit; sometimes, though not often, boiled Indian corn when cool. Never give a bone or any meat, for it brings on a disease which impels the bird to pull out its feathers. Hempseed and other seeds are quite unsuitable for all the larger Parrot tribe, and do not give them to the Grey Parrot. The cage smelling sour arises from the pans not being scalded every day. Your bird will talk a little at a year old, and improve every year.

Rabbit with Scabbed Head (*A Subscriber, Nantwich*).—"Very frequently the mischief arises from fleas at the top or back of the head, where they most congregate, and eat into the flesh. They will give the appearance of scurvy, and the Rabbit's scratching will keep this up sometimes long after the fleas from cold or other causes have taken their departure. For the destruction of fleas there is nothing so perfectly harmless and so thoroughly effective as Keating's Insect Powder: one good rubbing with it is sufficient to destroy them all in a day, and if the hutch be well cleaned out at the same time there may be a long interval of rest. If, however, the owner is sure that these scabs have come of their own accord, it is, no doubt, scurvy, and this can only be cured by giving them less dry food and more soft. On some Rabbits too much dry food acts as too much salt meat does with our sailors—the want of sufficient vegetable is the evil. No barley or peas should be given, and even oats should be gradually discontinued, and bran take its place, at least for a time. A mash of thirds, with unground linseed and tea-leaves in it, made into the consistency of paste, and about as much as could be held in the hollow of the hand, is an excellent breakfast for Rabbits under any circumstances, and is greatly used by the London men. The best local application is olive oil for two or three days, the part then to be washed with thick soft-soapsuds. The scabs will then come off, or will do so if this course be repeated.—B. Hudson, *Hull*."

Shelter for Bees (*Learner*).—We should prefer the aviary to the greenhouse, making good-sized semicircular apertures in the wirework opposite the entrance to each hive.

Mulberry Wine (*Morus*).—We advise you to leave the wine undisturbed until it become fine. This can be ascertained by having a peg in the centre of the head, and drawing a little of the wine out into a glass once a-month. When it has become quite clear, rack it off again without disturbing the lees. Let it remain for a week or two, and then bottle it. The bottles should be placed on their sides.

Rhubarb Wine (*Amicus*).—We do not think the "slightly putrid flavour" was caused by washing the cask with rain water. Put some lumps of charcoal into the cask, and shake it repeatedly at intervals of a day or two, and when clear again rack off before bottling.

Douglas's Mixture (*W. I.*).—We know nothing about it.

WEEKLY CALENDAR.

Day of Month	Day of Week.	DECEMBER 2—8, 1869.	Average Temperature near London.			Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
2	Th	Meeting of Linnean Society, 8 P.M.	47.4	33.7	40.6	19	47 af 7	52 af 3	5 af 6	43 af 3	28	10 18	336
3	F		46.9	35.4	41.1	23	48 7	51 3	24 7	20 4	●	9 54	337
4	S		47.9	35.7	41.8	19	49 7	51 3	37 8	6 5	1	9 30	338
5	Sun	2 Sunday in Advent.	48.8	34.8	41.8	25	51 7	51 3	41 9	58 5	2	9 5	339
6	M		47.0	36.5	42.2	21	52 7	51 3	36 10	0 7	3	8 39	340
7	Tu	[8 P.M.	48.3	36.6	42.4	20	53 7	50 3	17 11	5 8	4	8 13	341
8	W	Meeting of Royal Microscopical Society,	46.7	33.4	40.0	18	55 7	50 3	52 11	11 9	5	7 47	342

From observations taken near London during the last forty-two years, the average day temperature of the week is 47.7°; and its night temperature 35.2°. The greatest heat was 61°, on the 4th, 1857; and the lowest cold 13°, on the 8th, 1857. The greatest fall of rain was 1.02 inch.

WINTER BEDDING PLANTS.

NOT without some feeling of disappointment, I read your report of the plants exhibited lately at the Royal Horticultural Society's meeting for the prizes for the best collection of winter bedding plants. Having advocated for many years the claims which winter plants have as compared to spring ones, I felt anxious to learn what class of plants might be recommended for the purpose by those to whom we may fairly look to be leaders in such matters; and I cannot but regret that more collections than one were not sent to the meeting; for, without in the least disparaging the class of plants described by you as taking the first prize, I fear the general public are not yet in a position to patronise choice shrubs and Conifers for winter decoration. Plants less costly, and involving less labour during the season when their services are not wanted, appear to me more likely to meet the requirements of the majority of cultivators. All of these have not the means of obtaining Hollies, Aucubas in berry, or Japanese Conifers, and yet would like to have their flower beds ornamented from November till March or April; and I would have been more glad had collections been exhibited such as persons of moderate means could have stocked their beds with at a cost not greater than that which is requisite to do so in May. Now, with the costly plants to which Mr. Wilson Saunders' prize was awarded, the expense of winter decoration must be at least fourfold that for ordinary summer bedding plants, assuming both are to be purchased in the usual way. Even assuming the winter decorative plants to be made to do duty for two or three years, still the trouble and expense in keeping a large collection of plants over the summer in pots will be quite as great as in wintering and propagating Pelargoniums, Verbenas, Calceolarias, and the like. I fear, therefore, only the most affluent will be inclined to patronise the costly collection, and the less fortunate will have to be satisfied with a more homely list, or dispense with winter decoration altogether. To assist the latter in making a creditable display at a small cost, I beg to offer the following observations, not with any intention of disparaging variegated Hollies, Osmanthus, Aucubas, and choice Conifers, but to show that a tolerably good effect can be produced without incurring the expense which Conifers, &c., entail.

Before entering on the description of the rather meagre list of plants I have generally been satisfied with, I may say that I am no advocate for great variety either in summer or winter bedding, and I have sometimes been thought, in carrying out this view, to go to an extreme when using only four varieties of plants for two beds or borders containing upwards of a quarter of an acre of ground (or a space equivalent to about 150 circular beds, each of 10 feet in diameter); yet I do not think that any one who saw them considered the effect could be improved by more variety. It is the same in winter gardening; a few effective plants do more service than the most choice collection when too much mixed, unless it should happen that the bed they are placed in should be so close to the eye that every leaf and feature of each individual plant will be under the eye. In the latter case each plant may be scanned in the same way as the occupants of a conservatory shelf or greenhouse stage; but where flower beds at the distance of 50 yards or more have to be filled, the number of species used must be very limited, or a sort of chaotic confusion will be the result. Although there may be cases where a departure from all rules that can be laid down will be necessary, I would venture to say that a better result would follow planting all beds under 10 feet in diameter or width with only two kinds of plants, than with a larger number, one of these plants being suitable as an edging, the other being used to fill the body of the bed. If the bed be a circular one, the presence of an upright central plant, as a Yew, Cypress, or something of that kind, might perhaps be advisable, but I am not certain that small beds require this.

Another point necessary to bear in mind in the winter arrangement of flower beds, is the fact, that the surface of the ground is expected to be for most of the time in a moist state, and consequently darker coloured than it is in summer: hence the advisability of using as many plants as possible with light foliage in preference to those with dark leaves. The advantage of this is especially seen in the case of low-growing plants, where their contrast with the naked soil, or it may be the surrounding turf, is seen to advantage. The number of plants available for this purpose is sufficiently large for all reasonable requirements, and their plentiful use cannot be too strongly urged. Dark-leaved plants, on the contrary, however ornamental at other times, are seldom satisfactory in winter. This fact I proved some years ago by trying the effect of some fine coloured Beet one autumn, but it was a failure; the absence of the sunshine, so necessary to bring out the bronzy hue of the leaves of the Beet, rendered them ineffective, and the imprudence of depending on colours so much approaching that of the earth became evident. Some shades of green come out better.

As economy is the assumed qualification of the plants to be recommended, it may be stated here that one of the greatest merits the plants possess is the ease with which they are transplanted twice a-year, with a few exceptions, and with but slight loss; for, be it remembered, pots are entirely dispensed with, and only such plants recommended as will bear transplanting in autumn with little or no damage to themselves, and if they do not survive transplantation in the spring, they are expected to be of such easy propagation and growth as to be no serious loss; for it must be observed that many plants do not succeed well when removed at the latter season, and losses will occur. Where there are the means, however, of bringing on a number of younger plants for the next season the loss of overgrown ones need not be thought seriously of, for it often happens that some places in the shrubbery may receive those cast away, and their after-growth can be turned to good account. Some of the smaller specimens, too, might be returned to the reserve ground to serve for a

similar purpose another year; at the same time it is advisable at all times to have a set of young plants coming on.

One of the best qualifications a plant can have for the object under consideration is that of lifting well with a good ball of earth adhering to its roots. Amongst shrubs, Box and Aucuba are, perhaps, the best; while among Conifers, some of the Cupressus tribe are very indifferent. Most of the Arbor Vitæs transplant well, and so does the Irish Yew, while the Wellingtonia is not by any means good, neither is it a suitable winter plant. One of my greatest favourites is Retinospora ericoidea, but of this hereafter; suffice it to say that a plant which transplants well, and with a good ball of earth to its roots, is, if other points are favourable, a suitable one for winter. Another qualification is hardiness. I have never been able to see some of the merits of so-called winter plants as respects their berry-bearing or flowering properties; their flowering is rarely satisfactory till March, and in most country places the small birds make short work with the berries. In mild winters, however, Primroses and the like sometimes flower during winter, and the berries of Cotoneaster, Yew, and some other shrubs may be allowed to hang, but they are not sufficiently numerous to show at all at the distance of a few yards, and, consequently, it is upon foliage that we must depend for what display there generally is between the 1st of November and the middle of March, or a period of between four and five months, and often longer. It is, therefore, with a view to give a cheerful appearance to ordinary flower beds during that inclement season that the following list of plants of easy culture is recommended.

Helleborus fœtidus.—What is this? I have been asked many a time by plant-growers of eminence, who, struck by its appearance, declared it capable of taking its place amongst collections of fine-foliaged plants at exhibitions. I must tell them it is said to be a British plant, although I cannot say I have ever met with it in a position where it could be considered truly wild. In some moist places, however, it has the appearance of being the outcast of a garden, although its very name is all but disavowed by the gardeners of the present generation; yet many old plants have been called into requisition again, and so will this, I imagine, when its merits become better known. In Hooker's "British Flora" it is said to be found in pastures and thickets, especially in a chalky soil, to have leaves pedate and evergreen, and to flower in April; it is also described as powerfully cathartic. Now, without going into the botanical and chemical description of the plant, I may say it is an evergreen bush from 1 to 2 feet high—quite the latter height when flowering—its dark green foliage bearing a strong resemblance to that of some of the exotic Palms belonging to Chamærops or Latania, and the leaves are sufficiently plentiful to hang down to the ground gracefully on all sides of the plant. From the top of each stem (if it have more than one), rises a large cluster of pale greenish-yellow flowers. Many of the plants here are showing flower now (the middle of November), and the flowers are often fully expanded by the end of January, and their presence does not by any means diminish the beauty of the plant.

It transplants as well as a Box or an Aucuba, its roots being so numerous, and all extending about the same distance from the collar. It is a very effective vase plant, its graceful foliage and uniform growth fitting it well for the purpose, while its hardiness enables it to bid defiance to the cold winds and frosts of winter, which few plants will do in such a situation. In very severe frosts its foliage will hang down, and so does that of Laurels and most shrubs, but it recovers its position again when mild weather sets in. The plant is by no means very choice in respect to the situation in which it has to pass the summer; a shady spot under trees, where many other plants refuse to grow, or an indifferent piece of ground in the full sun, is equally acceptable. Its propagation is easy, as it seeds abundantly; but I may here caution the inexperienced not to be too hasty in censuring the seedsman if the plants do not come up so soon as expected, for there are few seeds which lie longer in the ground than those of this plant; but if not disturbed they will germinate in time, or even if they be dug in not too deeply, after the patience of the cultivator has been exhausted in waiting for them, it is not unlikely that the next year may witness the seedlings coming up in abundance. The same may be said of seed sown in pans or boxes, and kept in a warm place until all expectation of its germinating is at an end. When the contents are emptied on a vacant place in the kitchen garden, good plants are likely to be discovered there afterwards.

When once the plants have made their appearance above ground, I do not think they are in much danger from anything excepting the hoe and other garden tools; insects seem to be scared away by the fœtid smell, and the plants will struggle for an existence amongst most of the occupants of the garden. Their growth, however, is not rapid until the dews of autumn set in, when the plants grow faster, and a plantation of a few hundreds of them has a neat appearance. In general, I plant the small plants in rows about 18 inches apart, and half that distance from each other in the row, and they form fine bushy plants when taken up in the autumn. A few larger plants for vases and special purposes are placed farther apart, while seedlings that are too small to be of service the first year, may be kept closer together till spring. It is very accommodating, and a plant or two in an out-of-the-way place will supply all the seed that is wanted. To those who have never yet grown this Hellebore, I would recommend it with every confidence that, when once they have a supply of it, they will not exchange it for anything else.

Aranis albida variegata.—Amongst low-growing light-coloured-foliaged plants, I confess this has been my favourite for many years; possibly this may arise from the soil and other circumstances suiting it. Its relative, A. lucida variegata, has been just the reverse, and I have never been able to do anything with it; the former, therefore, does much of the duty of edging. For this purpose rooted plants are not by any means necessary in autumn, but the long side shoots pulled off overgrown plants are merely laid in like so much Box or Thrift edging, and in the spring every piece is found rooted; but stocky plants from 6 to 12 inches in diameter are sometimes used, and as these can be taken up with balls of earth, they transplant without any loss, and there is something so effective in the soft clear cream-coloured hue of this plant, that I have not yet met with anything that equals it for general effect when seen at the distance of a few yards. Even nearer it loses none of its beauty, and is altogether indispensable as a winter bedding plant. As a permanent plant it is likewise useful, and I have employed it as such for upwards of fifteen years, but I find that, like many other plants, it does not succeed well if grown continuously in the same place; in other respects it is very accommodating, and is, I consider, a first-rate winter bedding plant.—J. Robson.

(To be continued.)

AMONG THE ROSES.

Since "our Journal" aroused rosarians week after week, the lovers of "our queen of beauty" have been gratified with jottings which have not only added considerably to our Rose lore, but have also attracted the attention of many who had not previously taken a lively interest in our favourite flower. I can testify—and it gives me great pleasure to be able to do so—that in this part of Warwickshire, bleak as to climate and sterile as to soil though it be, the cultivation of the Rose is making rapid strides amongst the latter class of florists.

During the autumn Xavier Olibo has proved itself to be first-class. Its colour has been rich in the extreme; it has bloomed continually, and never failed to produce a full flower; in the latter respect the autumn blooms have surpassed the summer ones. Its free form also renders it a great favourite of mine, and I know of no sweeter pleasure than to view in the early morn a dew-bespangled bloom of Xavier Olibo glistening in the rays of the rising sun.

The more I see of the Duc de Welltington the higher its splendid qualities raise my admiration. Its form is good, its colour gorgeous, and in the duration of its bloom it is certainly unequalled: pity its growth is not vigorous. Duchesse de Medina Cœli now and then brings forth a flower of dazzling hue. For this quality alone it is well worth growing, although the bloom is only small, and far from being full. Horace Vernet is a Rose, which for the brilliancy of its colouring and the charming perfection of its form, may be placed first in the ranks of the velvety class. It will soon be as well known as Charles Lefebvre. Souvenir de Comte Cavour is another of the dark crimsons which has done well this autumn. I shall pay more attention to it, and propagate it more than I have hitherto done.

The above, with the well-known Duc de Cazes, make half a dozen of the dark velvety class which are worth all the pains we can give to their successful culture. Pierre Notting, although a perfect-shaped flower, and as dark as any of those I have mentioned, lacks the beautiful bloom which they possess, and in consequence has a dull appearance, otherwise it would be my *beau idéal of* a dark Rose.

Alfred Colomb is always bright and full; summer and autumn alike it never fails to show itself a first-class Rose. What a triumvirate it, Charles Lefebvre, and Marie Baumann make! and who will dare to say which is the foremost? I think the Comtesse de Jaucourt must no longer be catalogued as a first-class Rose. It is just worth a place in every rosery, and that is all that can be said in its favour. Madame Furtado, during the intense heat of 1868, bloomed incessantly with me, and those who have seen a good specimen of this Rose know what a ravishing beauty it is. During the past season the blooms have been miserably bad. Such are the effects of different seasons!

Ophirie, a Noisette, is a singular Rose, of a peculiarly bright salmon tint. It is hardy, and although not full, makes a pretty buttonhole flower.

I had grown Semiramis for two years without knowing its beauty until this season. When planted in strongly-manured ground it is really a free bloomer, and very full; its colour is pure pink. As a matter of course it is far surpassed by Marguerite de St. Amand, and especially by Monsieur Noman, in my humble opinion the best pink Rose in existence. Chevalier Nigra and Centifolia rosea surprised me this autumn with fine blooms; the latter is only wanting in fullness to make a good Rose. Lord Raglan and Madame Moreau have done no good. Mildew settled upon them early in the season, and stuck to them until the last. I find that others have had a like experience.

Climbing Devoniensis has disappointed many by reason of its rampant growth unaccompanied with flowers. I notice that a contributor to one of your contemporaries states that even when the leading shoot is stopped the growth of flowering laterals is not thereby induced. If this be its general character it is much to be regretted, for a lovelier hardy Rose does not exist. Not only is its shape a fine deep one, and its colour pure and lovely, but its perfume is exquisite. In stating this much I speak from experience, for during the past six weeks a single shoot of this noble Rose has afforded me a flower for my buttonhole at least twice a-week, and there are still nine buds to expand. It is budded on a rampant climber, called in Yorkshire "Wood Superb," and has this season thrown up a single shoot without a lateral, 8 or 9 feet high, and crowned with buds. I did not cut away the other wood of the stock, but let all grow: the result is that the Devoniensis shoot is only one of a dozen equally thick but not so long as it is. I shall try other Tea Roses on this stock.

A week ago I bought about fifty Roses, among them was Marie Baumann, the most highly prized of the lot. Although I had not previously possessed it, I knew it well—literally by heart, and therefore planted it with extreme care, looking forward through many dreary months to the time when she would

"Greet me with a smile at morn;"

but, alas! while I slumbered some dainty rascal robbed me of my treasure, and the morning after it was planted I looked in vain for my pet lamb. I cannot even supply its place, so great has been the demand for this gem.

My standards ceased to bloom upwards of a month ago, but the Manetti-stocked Roses are blooming still. Altogether my experience of the season passing away has added strength to my previous conviction, that the Manetti Rose stock is alone worth cultivating in this part of the country. This opinion I have freely expressed to those who have consulted me on the subject of stocks, and as a result, my neighbours have bought standards merely when required for ornamental purposes.—C. W. M., *Wylde Green.*

HOW WE GOT OVER OUR PEACH FAILURE.

As with many others, our Peach crop was almost a total failure. How we were to tide over September, and especially "t' Leger week," was a problem disagreeable to contemplate. Grapes, &c., we could furnish in quantity, but the absence of Peaches and Nectarines would be too conspicuous.

Our first and second early crops were plentiful and excellent, and we were congratulating ourselves on this, and thinking it would to some extent compensate for the scarcity in autumn, when just as the first house was about finished, and the second and best house about coming in, it was intimated to us, that in consequence of the movements of the heads of the establishment, the fruit would not be required for home consumption. This was mortifying; selling was unsatisfactory; but how could we keep them from the middle of July till the end of September? Could we put them in ice? No sooner said than done. The same circumstances which had necessitated this step had also set our London tin packing boxes at liberty, and they were put in requisition directly. A sheet of cotton was laid in the bottom of each box, and the Peaches and Nectarines were pulled as they ripened, and laid in the boxes without packing, but as closely together as they would go without touching each other. The boxes were then shut down closely, and conveyed to the ice house, where a level trench about 2 feet deep had been prepared for them, on the top of the ice, in which they were set, also several boxes of Pines that had already been standing ripe for three weeks in a cool house. Farther than an occasional look to see if all was right, the fruit was left undisturbed till the end of August, when the first demand was made upon it. The Peaches were then as sound as when pulled off the tree, and the flavour as perfect; Pines also were quite sound. The last of the Peaches and Nectarines were used about the 20th of September. The Peaches were a little tender in the skin, but otherwise excellent; the Nectarines (Victoria) were perfectly fresh, and to all appearance would have kept till Christmas. I may mention that towards the middle of September I exhibited some of the same Peaches and Nectarines, and obtained first prizes for them against autumn-grown fruit. Hitherto we have kept our Lady Downe's and other Grapes on the Vines, but if needful would resort to the same plan with them, only we would hang them in boxes set on edge.

Now, this is one advantage of an ice house which I do not suppose your readers to be ignorant of, nor do I claim originality in the plan, but only state my experience in the matter, as a reminder to those who may be similarly circumstanced.—J. S. W.

DAHLIAS FOR A SMALL GARDEN.

I HAVE read Mr. Witherspoon's letter in No. 450 on the advantages of small gardens, and I may say that I am always thankful for any information respecting the culture of flowers and vegetables, a mixture of which it is pleasant to cultivate. He asks for some information about the Dahlia. I have grown Dahlias and exhibited them as an amateur at many of the principal shows in the north with varied success for the last ten years, growing about eighty plants yearly, consisting of from thirty-six to forty-four varieties. I think that no amateur can grow more to do justice to them unassisted, which all amateurs should be. To have any chance of showing twelve dissimilar blooms fit for exhibition, I imagine he should not have less than sixty plants. I should divide them into thirty-six varieties, growing three plants of each of the best six varieties, two plants of each of the twelve next best, and eighteen single plants of different kinds, altogether sixty plants. I do not think that an amateur can have any chance of success with less than this number, as nurserymen's assistants show flowers only a shade inferior to their masters, and flower-show committees take little notice of them, for I know some committees which have had information about nurserymen's assistants exhibiting Apples, Pears, Plums, Roses, Hollyhocks, and Dahlias, although growing nothing in their gardens but about three dozen Dahlias and a few Potatoes. These men always take the head prizes at the shows, and genuine amateurs, who grow for pleasure, have to be content with prizes lower down the list, or nothing at all—a state of things that will soon work its own cure.

I shall now give a list of the best thirty-six varieties of Dahlias that I have grown, all old ones, as I seldom purchase the new sorts till the second year of their being in commerce, consequently I cannot speak for them till I have grown them; although there are six varieties which came out this year that I intend to procure—viz., Emperor, Memorial, Annie Neville, King of Primroses, Golden Fleece, and another sent out by Mr. Turner, of which I forget the name—all good sorts, from what I have seen of them when exhibited by nurserymen this year. My list of old sorts is as follows:—

Vice-President	Lady J. Ellis	John Kirby
Lord Derby	Bob Ridley	Flambeau
Miss Henshaw	Yellow Perfection	Andrew Dodds
Criterion	Mrs. Dorling	Rosy Queen
Harriet Tetterell	Delicata	Alexandra
Leah	Favourite	Lord Palmerston
Imperial	Bullion	Lady Gladys Herbert
Chairman	Princess of Wales	Earl of Shaftesbury
Autocrat	Miss Roberts	Lady of the Lake
Vidette	Mrs. Thornhill	British Triumph
Adonis	Hugh Miller	Valentine
Purple Gem	Lady Derby	Mrs. Boston

Mrs. Boston is one of the best, if it can be had as good as

I have seen it shown by some amateurs from near Bedale, but I have grown two plants each year for the last two years, yet have not had a flower fit to exhibit. There are many more good sorts which I have grown, but they are so inconstant as to be of no use to an amateur, sometimes producing not one good flower in a season.

My method of cultivation is to obtain strong plants by the last week in May, and then plant them out; watering them overhead twice a-week, or oftener, if the weather be very dry, and thinning the lateral shoots out as soon as they are an inch long, taking two shoots out of every three in the case of medium-sized flowers, and with large flowers less, supplying the plants when making their flower buds with a drenching of liquid manure once a-week, besides washing them overhead with clean water every night to keep thrips off the flowers. By following out this plan, an amateur can cut twelve or more dissimilar varieties any time from the middle of August to the end of the season—that is, if the land be well manured and trenched to begin with.—JOHN HILDRETH.

APPLICATION OF MANURES.

NOTHING is easier for any person fond of reading than to get up an orthodox opinion on any well-discussed subject. It is only when we think for ourselves and advance independent ideas we get into trouble. Unfortunately it is not every one who can bow to authority on purely scientific subjects, and though chairmen can do no wrong, and editors are supposed to know everything, I am more than ever convinced that unfermented manure loses nothing by sun and wind. For have I not been answered by our Editors? Has not every argument that could have been advanced been recorded against me by the highest authority? If these have not carried conviction, what more can be expected?

With the excellent directions for preparing fermented manure we have now no concern, because that is not now the question, nor whether my opinions accord with those of Professor Johnston and of Davy, with whose works I am well acquainted, but whether unfermented manure loses anything besides water by exposure to sun and wind. The Editors say fresh pigeons' manure, fowls' manure, and sheep's manure are stronger than old, which is just begging the question; that fresh guanos are richer in ammoniacal salts than those long exposed to the sun, which is again begging the question, or, at any rate, taking the cause of loss for granted. Johnston says, "Pigeons' manure when exposed to moisture undergoes fermentation, and loses a portion of ammoniacal salts;" "in warm climates pigeons' manure dries rapidly, and may be kept for a considerable time without losing its fertilising virtue" (see page 801 of his "Lectures on Chemistry"). "During the putrefaction of urine the greatest part of the soluble animal matter that it contains is destroyed; it should consequently be used as fresh as possible" (Davy and Shiers, page 231).

These extracts do not look as if the authorities quoted could be well cited against me; but if your readers will turn to the seventeenth volume of the Royal Agricultural Society's "Journal" they will find a long and interesting essay on farmyard manure by Dr. Augustus Voelcker, from which I will make a few extracts, though I would advise everyone to read it for themselves. "Perfectly fresh manure contains but a small proportion of free ammonia." "The nitrogen in fresh dung exists principally in the state of insoluble nitrogenised matters." "The most effectual means of preventing loss in fertilising matters is to cart the manure directly on the field." "On all soils with a moderate proportion of clay no fear need to be entertained of valuable fertilising matters becoming wasted if the manure cannot be ploughed in at once." "Fresh, *and even well-rotted manure* contains very little free ammonia, and since active fermentation, and with it the further evolution of free ammonia, is stopped by spreading out the manure on the field, valuable volatile manuring matters cannot escape into the air by adopting this plan." "It may indeed be questioned whether it is more advisable to plough in the manure at once, or to let it lie for some time on the surface, and to give the rain full opportunity to wash it into the soil." "In the case of clay soils, I have no hesitation to say the manure may be spread even six months before it is ploughed in, without losing any appreciable quantity of manuring matters." "During the fermentation of dung ulmic, humic, and other organic acids are formed, as well as gypsum, which fix the ammonia generated in the decomposition of the nitrogenised constituents of dung."

I sent the three numbers containing this controversy to a gentleman well known as a first-rate analytical chemist, and asked him to forward his opinion on certain questions, which I wish you to publish, though, as I have not his leave to give his name you will please not insert it. I received Dr. Voelcker's essay, from which I have made these extracts, since writing the first part of this paper, and certainly was pleased to find I was so borne out by such an authority.

Mr. Rivers, in a letter received some time since, says he not only agrees with me, but practises the same plan of manuring. I may now be permitted to say, that when old guano is less valuable than fresh, it is due to rains having fallen upon it, or damp having caused fermentation, and the same with the dung of the sheep or pigeon; and that I was quite surprised to see the loss of carbonic acid mentioned—first, because it is impossible to occur in the absence of fermentation, and, secondly, it would be little loss if it did. I hope at least that your numerous readers, whichever side of the question they take, will give me credit for not advancing opinions without some consideration, and that the Editors will excuse my differing from them in the matter.—J. R. PEARSON, *Chilwell*.

The letter Mr. Pearson enclosed is as follows:—"In answer to your inquiries I beg to give you as my opinion—

"1st, That no carbonic acid would be lost by spreading fresh manure upon the land. The loss of carbonic acid occurs in the manure heap several feet in thickness where active fermentation is going on.

"2nd, Ammonia is only present in unfermented dung in very, very small quantity.

"3rd, Uric acid in manure would not be dissipated unless the manure were in an active state of decomposition. Spread thinly over the soil, no loss would be sustained.

"4th, Uric acid will be turned into ammonia only by the process of fermentation.

"5th, Heavy showers and fermentation have more to do with the depreciation of guano than sun and wind. In moist climates the ammonia is all washed out, and nothing but the phosphate left.

"There is an old adage—

> "'Be it wet or be it dry,
> Spread your muck and let it lie.'

After which, in my opinion, it is best to be ploughed in as soon as convenient."

[We remain of the opinion we expressed, and consider that exposing spread stable manure for a lengthened period to the sun and wind deprives it of some of its fertilising constituents, and that by such exposure it cannot gain anything. The other examples we quoted of animal dungs, we consider illustrations of the consequences of exposing such excretions for a long time until they have become as dry as sun and wind can make them. We will pass over what Prof. Johnston states about the waste from allowing long dung to remain on the surface of the soil, and what Davy says about keeping dungs from exposure to the air; and we will proceed at once to the quotations from Prof. Voelcker's well-known communication to the Royal Agricultural Society. He says, "Perfectly fresh manure contains but a small proportion of free ammonia." What becomes of that proportion when the manure is exposed until it is dry as sun and air can make it? Why, it is dissipated and lost, which would not have been the case if the manure had been ploughed or dug in. When Professor Voelcker speaks of no fear of waste if the soil contains clay, he only refers to what is washed into the soil by the rains. So, when the Professor observes that active fermentation and the evolution of free ammonia are stopped by spreading out the manure, he does not proceed to say that it loses nothing but water, as Mr. Pearson implied, if it be left exposed on the surface. We quite agree as to checking fermentation, but we add, spread and plough or dig in at once, if only to save the "small" amount of free ammonia. Professor Voelcker says no more than that it is to be "questioned whether it is more advisable to plough in the manure at once, or to let it lie for some time on the surface, and to give the rain full opportunity to wash it into the soil;" but with all the well-deserved deference we feel for the Professor, we cannot perceive why all risk of loss should not be avoided by burying the manure at once in the soil, instead of waiting for it to be washed in by the rain. The Professor adds, "that exposure for six months on the surface would not cause the loss of any appreciable quantity of manuring matters," but he confines this to "clay soils," and therefore refers to the soluble matters washed in by the rains. The "small" proportion of free

ammonia must have been lost. We pass by Mr. Pearson's observation that fresh guano is richer in ammonia than old guano, because the latter has been more exposed to the rains, although that is not correct, the guano latitudes being characterised by a singular absence of rain, but the ammonia would be diminished, as he rightly observes, by fermentation. He is not correct in saying that carbonic acid would be little loss, because experiment shows it is beneficial when applied to the roots of plants, and he is equally incorrect in stating it is impossible to occur in the absence of fermentation—an old stick in the process of decaying emits carbonic acid, and decay commences in a straw as soon as it is dead and damp.

The letter from the clever chemist which Mr. Pearson appends, needs little comment. The two first paragraphs in it are replied to in what we have already said. We never stated, nor thought, that the uric acid of urine would be dissipated by its exposure to the sun and air, but urine rapidly decomposes, and what becomes even in the freshest stable litter of the free ammonia so rapidly developed from the urine of the horse that it has to be fixed by gypsum or other agent in order to render a stable's atmosphere healthy? With the last sentence in the letter, "In my opinion it [muck] is best to be ploughed in as soon as convenient," we fully concur, adding only, we would not put it on until it is convenient to plough it in.

How much stable manure loses by long exposure to the sun and air will never be known decidedly until a fresh specimen be analysed, and a similar specimen be analysed after a long exposure to the sun and wind. We should like this to be done, and whichever opinion the result sustains we are quite sure Mr. Pearson would rejoice as much as we should; for the object we all have in view is the establishment of truth.—Eds.]

KEEPING THE POLLEN OF AUCUBA JAPONICA.

In answer to "M.," in the Journal of the 25th ult., I remember that at a meeting of the Linnean Society nearly two years ago, it was stated that in order to fertilise the female flowers of Aucuba japonica, cultivators are compelled, from the fact of the male plant flowering earlier, to preserve the pollen in paper, and that pollen so kept, even for twelve or eighteen months, is as efficacious as that recently obtained.—B. Daydon Jackson.

CHEAP PLANT HOUSE.

I have just finished erecting a small greenhouse, and as the construction involves two or three novelties perhaps you may be able to find a corner for this letter, in order to encourage those amateurs who, like myself, have limited means and large desires with respect to horticulture, and who are not afraid of a little hard work in Flora's service. I may preface my account by saying all the work has been done by myself, with the single exception of grooving the rafters—bricklaying, carpentry, glazing, and everything, and I am by vocation none of these trades, and prior to building my house never before laid a hundred bricks in mortar in my life. I have acted on the principle of a fixed roof and sides, and ventilation by means of the four openings in front and the two openings at the back of the roof. The frame of the house serves also the purpose of sash-bars for the glass, so that the wood is economised; and instead of rabbets, and putty, and all that paraphernalia, the rafters are simply grooved about one-eighth of an inch wide and a quarter of an inch deep, and the glass slid into the grooves—not lapped, but simply placed edge to edge, or one sheet butted up against another, as recommended by Mr. Cannell, of Woolwich. As there is naturally a little space left in the groove after the glass is in, I have packed or caulked this from the inside of the house with single strands, in most instances, of tarred string and ratline, and placed caps of wood the whole length of the rafters on the outside. The rafters are dovetailed into the front plate.

Now, as to the roof being watertight, I fancy I hear some of your readers questioning the fact, but I can assure them it is perfectly impervious to any ordinary rain. I do not know what it will be in tornadoes and hurricanes, but my experience up to the present time certainly is that it is perfectly successful. There is more light in the house, it is free from the dirt and grit which always accumulate under laps, and, what is of equal if not greater importance, a broken square can be taken out and replaced in half the time a glazier would take—indeed without calling in the aid of any glazier at all, provided some sheets of the right size are at hand. All that is necessary is to take out the strand of ratline from underneath, and draw the peg or screw in the front plate which prevents the glass sliding down, and the lower panes can then be pushed up in the place of the broken one and a new sheet put in at the bottom, the ratline replaced, and the work is done.

I come now to one of the principal recommendations—its portability. In my position I may have to remove at a short notice, and in that case all that is necessary to be done would be to take out the squares and pack them in the case in which I received them, and the framework of the house will take to pieces like a bedstead. Of course the front brickwork would have to be sacrificed, but then old or new bricks are not difficult to obtain anywhere.

I heat the house by means of a flue. The stokehole is to the right of the door; it takes up but little room, and is ready of access. Instead of the ordinary furnace door and frame I have a plate of iron that slides backwards and forwards. I may say the flue draws admirably, and I have little difficulty in creating any amount of heat. The whole cost of the house, reckoning materials only, the work being done by myself, is under £4 (about £3 10s.), and the dimensions are—outside measurement, 13 feet long, 7 feet 2 inches wide, 7 feet high at back, and 5 feet high in front. I used about three hundred old bricks for the wall, pointed them down, and washed them over with red ochre on the outside, and they look almost as good as new. The size of the glass was 18 inches by 12. I have made provision for the frame containing the glass in the door to swing, if necessary, so as to increase ventilation. I need hardly say this has made an ornamental and substantial house, and well repays the labour and trouble expended on its erection. I would strongly, as an amateur, advise those who, like myself, are enthusiastic lovers of flowers, to procure a house like this, and larger, of course, if their means will permit. It meets the objection often urged, that in case of removal the house would be seriously damaged, if not destroyed; it provides for the ready repair of a broken square; it gives the maximum amount of light—a great desideratum; and if a person only possesses a moderate amount of mechanical knowledge I fear no failure, provided he do not let a few difficulties dishearten him.

I am anxious to have a few climbers, would you kindly recommend me about three with showy flowers and foliage?—A Yorkshire Amateur.

[We can easily believe all you say about the little the glass house has cost you, but then it is not everyone who can turn his hand to carpentering, and bricklaying on his own account. On the principle of the division of labour, it is anything but always the cheapest way of doing things, if the time and labour have to be counted. We know of some cases where mechanics and small tradesmen have had their little places put up, and they found it better to employ a mechanic to work in his overtime, whilst they too worked at their own trade, and thus made the money to pay their neighbours. In many cases that could not be done, and your example then would be worth following. The capping of your sash-bar rafters will be a security against wet, otherwise caps might have been dispensed with, as they will shade considerably. There will be no danger of wet finding its way in between the squares, if at all well cut, but if the squares are at all tight in the grooves there will be danger from expansion. The mode of replacing a broken square is a very good one, as the removing and recaulking will take less time than moving and fixing a square in the usual way. We have objected to grooving when putty was used, as it was so difficult to get it and the bits of glass out. Your plan disposes of such objections. Your air will be quite sufficient, except in very hot days, and then you can open the swing in the door, or the door itself. The portability of your house would have been better secured, if your front had been of wood, and in so many moveable pieces. We are glad you have used a flue, as such a house unheated loses more than half its value.

For climbers we would recommend Mandevilla suaveolens, Tacsonia molliesima, and Passiflora racemosa cærulea.]

BOILERS.

I notice in your columns many allusions to the cost of heating by hot water, when employed in small structures; but I believe that this results from a peculiar fact—that very few people, comparatively, are acquainted with the upright boilers sometimes in use, and where in use, I fancy, deservedly esteemed. I had a small one by Stevenson, with an orna-

mental outer casing of copper, so that it was fitted to stand in an entrance hall, if needed. It was purchased about fourteen years ago, and used to heat my first greenhouse, a wooden shed, with a glazed front and top, about 10 feet by 8 feet, and about 9 feet high at back. Its operations were then extended to a good lean-to greenhouse, with a small forcing or bothouse at one end, the whole about 20 feet long, by about 10 feet wide, and it is still doing its work satisfactorily. In a small greenhouse, if the flow pipe were to be conducted through a tank containing a considerable body of water, a brisk fire for the space of about one hour and a half to two hours, would raise sufficient heat to keep out all frost; and although the little boiler above spoken of does require coke, it does not contain an inordinate quantity, and if the fire be made up at 11 P.M. it might be found still warm at 6 A.M., or even later. It is some years since I worked it, so that I cannot speak positively on minutiæ, but I have three similar boilers on a larger scale now at work, and would be happy to show them to anyone who might wish to see them, as they are most satisfactory.

In all these boilers some heat is wasted in the iron funnel pipe, but then this can be well obviated by leading it into a brick flue, to pass through the house, or to be made use of in heating some other structure. I have done this very successfully with one of mine, and in a larger place it might be made most useful. I am convinced that little boilers combined with a tank arrangement, as a store of heat, and with the patent-jointed pipes, such as Truss's or Riddell's, although more costly at first, are cheaper in the end, when you look at the ease and comfort obtained, and they have the merit of belonging to the tenant, which sometimes is a benefit.—C. M. Major, *Croydon.*

GROWING CELERY IN BEDS.

My attention was drawn to "J. T.'s" observations in page 378, upon growing Celery in beds. I must say I find it a most profitable way of growing it for family use. Were I growing it for exhibition, of course I would prefer the single row; but as I am placed in circumstances much like "J. T.," having but a small space to grow a great quantity, I find the bed system most advantageous. For instance, when I am going to make a trench 6 feet wide, I leave 2 feet at each side to hold the soil taken from the trench, making 10 feet; in this are planted five rows of Celery. Again, when about to plant five single rows, I in general leave from 5 to 6 feet for each row, say five—that is, the five single rows occupy 25 feet. The bed growing the same number of rows occupies 15 feet less, and as we cottage gardeners are looking out for the best way of obtaining a large quantity of produce from a small space, I know of no better than this. I have grown Celery in beds for the last three years, and have had no reason to complain of the bed system. The soil in this garden is light and dry, but I have seen Celery grown with success in beds on heavy soil, though it was well drained.

I will now give a few hints as to how I grow my Celery in beds. I make a trench 6 feet wide, taking out the soil to the depth of 18 inches, dig over the bottom, put in manure, and dig again, mixing the manure well through the soil. I then plant five rows of Celery, and should dry weather set in I give, in the evenings, large supplies of liquid manure or ordinary water. I defer earthing up until the plants are almost full-grown; nor do I tie my plants prior to earthing-up, as I think water is more liable to lodge between the leafstalks when these are tied, often causing decay, and if they are tied tightly they are sure to decay if the crop is not used at once. The heart is not able to push itself up through the tying in order to continue growing, and the consequence is it must die. When I am about to earth-up I take two boards, 6 feet in length and 10 or 12 inches in breadth, place them on edge between the rows of Celery, and earth-in loosely between the boards, lift and place them between the next portion, and so on. I like the soil amongst the plants to be as loose as possible, as the rain passes more speedily to the roots, and the soil dries sooner than when it is otherwise. I leave a little of the hearts above the surface, and by this means I have always done very well with my beds.—Ignorance, *Adamstown.*

FLOWERING DAHLIA IMPERIALIS IN POTS.

Having seen it stated in your Journal that Dahlia imperialis was in flower at Chiswick, is it, may I ask, the first time it has been noticed to flower in England? There has been a plant of it here for two years; it was planted out in a bed in the flower garden in the summer of last year, and grew to a height of 7 feet, showing no sign of flower buds. It was lifted, potted, and placed in a late vinery during the winter. The Vines were started in February, and in March of the present year it produced thirty-six flowers. After flowering it was removed to an orchard house, where it has been ever since, and at the present time shows no sign of flowering.—R. Robins, *Brechin Castle Gardens, Brechin, N.B.*

[Last week a communication stated that the same mode of flowering this Dahlia had succeeded at Waltham Cross. Flowers of Dahlia imperialis were exhibited at one of the Royal Horticultural Society's meetings in December, 1868.—Eds.]

FORCING PLANTS.—No. 4.

Cratægus (Hawthorn).—The Cratæguses are but seldom forced. Nothing, however, is finer, and they force well and easily. The best sorts are the common C. Oxyacantha, C. Oxyacantha multiplex, double white; C. Oxyacantha punicea, scarlet; C. Oxyacantha flore-pleno, double red; and C. Oxyacantha rosea, pink. They are best grown as standards or pyramids, and none but worked plants ought to be employed. They should be kept in the open ground and specially prepared for the purpose. Standards can be most readily obtained with clean straight stems, and they ought to be shifted every autumn, so that they can be had with the roots close to the stem, and not left to grow three or four years without being moved, as in this case the roots are not fibrous except at a distance from the stem, and in taking up we run the risk of the plants growing but little, if at all, in the succeeding year. The plants require no care beyond annual transplanting, and the shortening of irregular growths, until they have formed compact, good-sized heads. I pot them in autumn when the leaves are falling, using pots no larger than sufficient to hold the roots well, but confining rather than overpotting them. Light turfy loam, enriched with one-fourth of leaf soil or old rotten manure, is a suitable compost. Plunge the pots in coal ashes in an open situation, and keep the soil well watered. The potting will act as a check to growth. The plants make short stiff wood, and spurs form plentifully; but if they grow or make shoots more than 6 inches long, I stop them to that length, and in August take the pots out of the ashes and set them on ashes in front of a south wall or other shelter, keeping them well watered until the close of September, and then reduce the watering. The leaves will fall early, and the pots may be plunged to the rim in a sheltered situation, and be taken into the forcing house at intervals of a fortnight or three weeks from December to April.

Pyramids are easily formed; I head-down the plants to 1 foot, and pinch the side shoots at 6 inches, but train the best situated erect as a leader. It is shortened to 15 inches in autumn, and the plant lifted, and this is continued until I have plants large enough, when it is potted, and grown a year in pots as described for the standards. They may be had of any size from a tiny tree a yard or less high, up to that of a giant, and if the close-stopping system be practised, they need not be of greater diameter than twice that of the pot.

The Thorns force as easily as Lilacs, are fully as sweet, and far more handsome. I think it would be easy to have May blossom at Christmas. The plants, after forcing, should be continued under glass, be hardened-off, and then placed outside. Some may be forced again the second year, but they are all the better of a year's rest, pinching off the blossoms as they appear, so as not to weaken the plants needlessly. The older they are the better they flower. Top-dress in autumn with rich loam and old cow dung, removing the old soil to some extent from around the sides of the pot. The results will be seen in the bloom, and there is no fear of the fruit falling.

The New Scarlet Thorn is a splendid variety. It will bloom in 6-inch pots.

The temperature required for forcing is the same as for Lilacs.

Cytisus (Laburnum).—The Scotch (C. alpinus), is the best for forcing and every purpose. Plants should be grafted; they seem to flower at an earlier age without running so much to wood. Pyramids or bushes may be formed like Apple and Pear trees, and standards have a fine effect, for the flowers, being seen from beneath, appear much larger than when on the level of the eye, or below it. The treatment is the same as that of the Thorns. The older the plants are the better, and

you cannot restrain them from blooming, only keep the roots confined. They form spurs very closely, and with stopping the shoots bloom at almost every joint, but stopping need only be practised to secure shoots where wanted and good form. Lifting annually or biennially, will cluster the pot plants with flower buds. They may be kept for years in pots, forcing every second year, though for very early bloom the most promising of those forced in the previous year may be forced a second time in succession.

Philadelphus coronarius.—The Syringa, or Mock Orange, requires the same treatment as the Lilacs, both as regards the preparation and forcing of the plants. The scent of the flowers is so powerful, that the air is made rather oppressive by it when a number of plants are grown. One, or at most two, will be sufficient to have in flower at one time in a house; but it should be noted the scent is not so powerful in the flowers of the forced plants as in those in the shrubberies. Small plants, if removed frequently, and grown a year in pots as described for the Thorn and Laburnum, bloom well.

Ribes sanguineum, and its varieties album and atrorubrum, respectively with red, white, and deep red flowers, are well-known early-flowering plants of no mean beauty, and though common are not so generally forced as they deserve to be. A well-grown bush of any of the varieties named is a fine object when in full bloom in January, and so is a standard with a straight clean stem, and a round head clustered with pretty drooping flowers, when placed on a dinner-table in midwinter. An 18-inch stem is quite high enough for that purpose, and for greenhouses and conservatories any height from 18 inches up to 6 feet will do. The best plants for tall stems are seedlings. They grow more freely than cuttings or layers, and form straighter stems, and more quickly. Besides, they seldom give any trouble. There is the labour of grafting at the height required, and then we proceed to train the head in the form of an umbrella, and when a good head is obtained take up and grow the plants a year in pots, treating them in the same manner as described for the Thorns. If one has not worked plants, all he has to do is to select plants with clean straight stems, and train them upright to a stake, removing all side shoots as they appear, and when the desired length of stem has been attained, head them over, removing all the eyes but three of the highest up. These produce shoots in the following spring, the pruning or heading-back being done in autumn, and whilst the shoots are young and pliant bend them down gently, bringing them to a horizontal position by means of strips of matting, taking care to dispose them equally all round. When they have grown 6 inches pinch out their points, and the shoots which they afterwards make must be tied down so as to give an equal growth on all sides. If the second growths do not push more than 3 or 4 inches, let them alone; but if they exceed that length pinch them back to that. Do not lift them in autumn, nor use a knife, except to cut off any ill-placed shoot. In the following year all that is needed is to train down the lowest shoots and stop those disposed to grow irregularly, and all of the shoots when they have made others 6 inches long, thinning them out where they cross each other, so as to form a compact, symmetrical head. Lift and pot in autumn. I then plunge the pots in coal ashes in an open situation, and water freely throughout the summer, placing the plants in a warm situation in August, and giving no more water than enough to keep them from flagging. The leaves fall early, and the plants are fit for forcing by November, and in point of temperature succeed under the same conditions as the Deutzia gracilis. The stems may be feathered by leaving one joint or leaf on the side shoots, and a spur will probably be the result; if not, again pinch the shoot coming from it to one leaf. The stem will be clustered with spurs, and when in flower will have a good effect, especially when surmounted by a well-bloomed head.

Pyramids are formed in the same manner as in the case of the Thorn, only as the shoots are disposed to grow erect, we must tie them down before they become too stiff, stopping them when 6 inches long; and the side shoots produced, when not required to fill vacancies, should be pinched off at the leaf next the shoot from which they spring. Neat plants may be had in two or three years, and when grown a year in pots are very pretty. They may be taken up from the open ground, potted, and forced at once, but there is no comparison between them and those which have been established a year in pots. Sandy loam, with a little leaf soil, is the most suitable compost.

Jasminum officinale (White Sweet Jasmine).—This should be grafted on stems 18 to 24 inches high, and the erect shoots trained downwards, but all growing more than 9 inches long should have their points pinched out; and in spring, before they begin to grow, thin out the shoots where too close together, especially those which are the weak and crowded. Neat plants may be formed in 6-inch pots, and these after the second year are fit for forcing. Larger plants may be grown in larger pots. The plants ought to be grown constantly in pots in a warm situation, and towards September should be placed on coal ashes in front of a south wall or fence, and no more water given than enough to keep the foliage fresh. They ought to be wintered in a cold pit, or under a south wall, the pots being plunged over the rim in coal ashes. Plants of the proper size for forcing should have the wood well ripened by being placed in a warm position in August, or early in September, reducing the water given as much as possible, and placing them in a cool dry house in October, where they should be kept dry, but not so much so as to cause the wood to shrivel. Forcing may be commenced in December. The temperature and treatment are the same as for Spiræas.

Jasminum officinale grandiflorum is better than the old kind, and blooms very freely when grafted on the common Sweet Jasmine; indeed, both kinds ought to be grafted, otherwise they make too long shoots, but the grafting appears to check the flow of sap, and tends to produce a more shrubby habit.

Jasminum nudiflorum on stems a yard high has a fine effect when the shoots hang down to the rim of the pot, and are covered with a mass of bright yellow flowers. In a cool house it blooms at Christmas, and during January. No forcing is required.—G. Abbey.

ENTOMOLOGICAL SOCIETY'S MEETING.

The first meeting of the present season was held on the 1st of November at Burlington House, Mr. H. W. Bates, President, being in the chair. Fifteen new members were proposed for election, and a large series of donations to the Society's library announced, including the publications of the Linnean and Zoological Societies of London, and of numerous Natural History and Entomological Societies of Europe and America. Two new parts of the Transactions of the Society were announced as having been published since the last meeting.

Mr. Ianson, on behalf of Dr. Power, exhibited eight new species of Beetles new to the British list, including four species of Bruchus, Triarthron Maerckelii, captured at Esher in July and at Shirley in August; also Phratora cavifrons from Esher, Cowley, and Darenth, and species of Niptus and Silvanus. Mr. Grut exhibited various new Beetles from Trebizond captured by M. Deyrolle, including four new species of Carabus. Mr. McLachlan exhibited a series of specimens illustrating the transformations of Mantispa pagana received from Dr. Brauer, of Vienna, who has discovered that this species is parasitic in the nest (or rather egg-ball) of a Spider of the genus Lycosa. In the full-grown larva state the feet are nearly obliterated; the pupa closely resembles that of Hemerobius, and is enclosed in a silken cocoon. Mr. Ward, of Halifax, sent for exhibition some very fine and interesting species of exotic Butterflies, including the gigantic Papilio antimachus, captured about two hundred miles east of Old Calabar; the only example hitherto known of this species was captured by Smeathmann, and figured by Drury and Donovan, and is now in the collection of the late Mr. W. S. MacLeay in Australia, having been purchased by him at the sale of Drury's collection. The female of the very beautiful Ornithopterus Brookeanus, of which only males from Borneo had hitherto been obtained, was also exhibited; likewise P. zalmoxis, received by Mr. Cutler from the Cameroons, and several fine species of Charaxes.

Mr. F. Smith exhibited specimens of the rare Meloë rugosus captured in the middle of October, crawling among grass in the neighbourhood of a colony of wild bees of the genus Anthophora, in which they were supposed to be parasitic, near Southend, Essex. They are extremely pugnacious, and of twenty-five specimens captured and kept alive only four remained perfect, the others having fought and lost portions of their legs and antennæ. Mr. Albert Müller exhibited an interesting collection of galls found upon various species of vegetables, including two kinds of excrescences on the stalk of the Maple leaf, one formed by a dipterous insect, and the other being solid and thorn-like, and supposed to be produced by the punctures of Acarus Aceris, which ordinarily forms Pear-shaped red galls on the leaves of the Maple. It was stated that the extensive series of galls formed by the late Mr. Armitage is now in the museum of the Philosophical Society of Leeds.

Mr. Wormald exhibited some species of Butterflies from Shanghai, and Mr. Dunning some Moths from the same place, reared by Mr. Holdsworth from the same batch of larvæ. The Moths appeared, however, to be identical with specimens named by Mr. Walker in the British Museum Œona punctata, Lasiocampa remota, and Lebeda hebes!

Professor Westwood communicated a letter received from Professor Stal, of Stockholm, containing an account of all the typical collections of insects in the museums of Stockholm, Upsal, and Lund, including

those of De Geer, Queen Louisa, Payknll, Gyllenhal, Schonherr, &c. Letters were also read from M. Done and Dr. Kraatz.

A memoir by Mr. Kirby was also read, containing notices of the species of Butterflies introduced and named by Gmelin in his edition of the "Systema Naturæ" from the Museum Leskeanum, in which they had been described by Schach, and of which the types are now preserved in the museum of Dublin. The President exhibited a drawing made by Mr. Burchall in New Grenada, representing the caterpillar of one of the Sphingidæ, regarded with great dread by the natives as a small and poisonous kind of snake, the resemblance being caused by two large eye-shaped spots on the retractile neck of the caterpillar.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

Mormodes Greenii (Mr. Charles Green's Mormodes). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Probably a native of Mexico. Flowers yellow, spotted with scarlet, and powerfully aromatic.—(*Bot. Mag.*, *t.* 5802.)

Vellozia elegans (Natal Vellozia). *Nat. ord.*, Velloziaceæ. *Linn.*, Hexandria Monogynia.—Native of the Cape of Good Hope. Flowers white.—(*Ibid.*, *t.* 5803.)

Calochortus uniflorus (Single-flowered Calochortus). *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—Native of the high plains of Santa Cruz. Notwithstanding the name, the flowers are usually more than two. They are pale rose-coloured. —(*Ibid.*, *t.* 5804.)

Rhodotypus kerrioides (Japanese Rhodotypus). *Nat. ord.*, Rosaceæ. *Linn.*, Icosandria Digynia.—"A very elegant shrub, native of Japan, and, no doubt, hardy." Flowers white; fruit like a Blackberry.—(*Ibid.*, *t.* 5805.)

Iris nudicaulis (Naked-scaped Iris). *Nat. ord.*, Iridaceæ. *Linn.*, Triandria Trigynia.—Native of Bohemia, Silesia, &c. Flowers dark purple, veined darker, base white.—(*Ibid.*, *t.* 5806.)

Apple Annie Elizabeth.—"Awarded a first-class certificate by the Royal Horticultural Society's Fruit Committee, on the 6th of October, 1868,—such is our authority for recording that the variety merits the attention of the pomologist. We have to thank the raisers, Messrs. Harrison & Son, of Leicester, by whom it is being distributed, for the specimens.

"We learn from the Messrs. Harrison that the examples hitherto exhibited of this valuable culinary Apple have been obtained from the seedling plant, which has been once transplanted, so that doubtless it will be seen much finer when obtained from trees properly worked and cultivated. Its pedigree cannot be exactly ascertained, but it is believed to have been obtained from the Bess Pool. The tree is of upright or pyramidal habit, compact, and remarkably sturdy, the bark smooth, bright, and mottled, and the leaves often acquiring very large dimensions. It is, moreover, an excellent cropper, and the fruit is generally of large size, round in its outline, but widest at the base, prominently ribbed or angular, especially towards the eye, which is large, and deeply set in an irregular angular basin; the skin is pale yellow, suffused and somewhat splashed with crimson on the sunny side; stalk short, deeply set. The flesh is white, firm, but crisp and tender, with a fine brisk flavour. It is commendable for its late-keeping properties, the ordinary season for use being from December to June. Specimens gathered in October have been kept good till the following October, twelve months after being gathered, so that we may fairly state that it is an excellent late kitchen Apple, and we learn that when kept till spring is of very good quality for dessert. By the month of April it acquires a more decided yellow colour, with much brighter crimson markings than is shown in our figure, which gives the appearance of the fruit at the time it comes into use."—(*Florist and Pomologist*, N.S., ii., 241.)

ON THE LEAVES OF CONIFERÆ.

Botanists can scarcely have overlooked the fact that the true leaves of Pinus consist of bud scales; and that what are known as leaves, and what Dr. Engelman ("Gray's Manual," fifth edition, page 469), calls "secondary leaves," are but phylloid shoots, but I have failed to find any specific reference to the fact in botanical works. Dr. Dickson, however, in a paper on the phylloid shoots of Sciadopitys verticillata ("Proceedings of Botanical Congress," 1866, page 124), remarks, "In Sciadopitys I have to call attention to the fact that the leaves of the growing shoots consist, as in Pinus, entirely of bud scales." One would suppose from this incidental reference to Pinus that he was acquainted with the fact that the so-called leaves of Pinus were phylloid shoots; but as the object of the paper is to show that the so-called leaves of Sciadopitys are not true leaves, and as anyone must know that they are not, if already cognisant of the fact in Pinus, we may take it for granted that at any rate if not entirely overlooked, little thought has been given it. I believe I am occupying an entirely original field in pointing out the true nature of leaves in Coniferæ, and that the increased knowledge will have an important bearing on many obscure points in their study.

Dr. Dickson uses but the language of general botany when he describes the true leaves of Pinus as "bud scales," meaning thereby the scaly free portion just under the "secondary leaves," of Engelman, and sometimes forming sheaths around them. But these free scales are scarcely leaves. The chief portion of the true leaves in most plants of the order are adnate with the stem. Sometimes they have the power to develope into scaly points, at others into foliaceous tips, and at other times without any power but to preserve their true leaf-like character. Larix affords the best illustration. The true leaves are linear spathulate, entirely adnate to the stem. There are two kinds of stem-growth on Larix. In one case the axis elongates and forms shoots; in the other axial development is arrested, and spurs are formed. On the elongated shoots the leaves are scattered; on the spurs they are arranged in whorls. The power of elongation possessed by the shoot is imparted to the leaves which are adherent to it, and they produce green foliaceous awl-like tips. The power of elongation which the spurs have lost is also measurably lost to their leaves. They develope themselves fully, although they have no stem to adhere to; they preserve their spathulate form, but cannot produce the awl-shaped tips of the shoot leaves. There are, therefore, two forms of leaves on the Larch, the one free, the other adherent; and we have a novel principle very clearly illustrated, that *strong axial development* (vigour) *is a characteristic of adhesion, while the reverse* (weakness) *is characterised by a free system of foliation.* Any species of Larix will sustain this observation, and L. leptolepis, as a vigorous grower, is the best.

The characteristics of the foliage described in Larix may be found in a greater or less degree in a great many species of coniferous plants. In Cryptomeria the leaves adhere for four-fifths of their length on vigorous shoots; but on the more delicate ones they are free for three-fourths or more. In Juniperus the different forms of foliage are well known, especially in J. virginiana, J. chinensis, and J. communis. On the vigorous shoots adhesion takes place for nearly the full length of the leaves, but on weaker ones the leaves are very nearly free. In Thuja, Biota, Retinospora, Cupressus, Thujopsis, indeed most of the section Cupressineæ, these variable degrees of adhesion may be found, and always in relation to the absence or presence of vigour; and on this question of vigour it will be well here to make a few remarks. The power to branch, I take to be a high mark of vigour. The young seedlings of most coniferous trees grow but a few inches the first year and have no power to branch. The power increases with age, and in all cases in proportion to the vigour of the plants. In Thuja, for instance, no branches appear till the second year. They increase in number, until, when in its prime, branches appear from every alternate pair of axils, and, as these are decussate, this gives the fan-like form of growth of which the Arbor Vitæ affords a familiar illustration.

This varying power of adhesion in the true leaves, and in connection with vigour, enables us to explain many matters hitherto not understood. For instance, Dr. Lindley describes a form of Biota as B. meldensis, suggesting that from its appearance it must be a hybrid between the Red Cedar and Chinese Arbor Vitæ. It is but B. orientalis with the leaves moderately united. Thuja ericoides of gardens was long supposed to be a Japanese species; it is but an entirely free-leaved form of Thuja occidentalis. Retinospora ericoides of Zuccarini is but a free-leaved form of some Japanese plant; and in all probability many species of Retinospora so marked in herbaria, are all forms of one thing with more or less adnated leaves. In all these cases delicacy of growth and freedom of leaves go gradually together, as before indicated.

One of the most remarkable instances of the value of this principle however, will, I have no doubt, be in fixing the identity of the Japanese genus Glyptostrobus* of Endlicher, with the

* It was the intention of the author to refer his remarks on Glyptostrobus to G. sinensis, *Endl.*

American Taxodium of Richard. In a shoot 1 foot in length of the latter we find perhaps four or six branchlets; in the same space in Glyptostrobus we shall find a score or more. Indeed, in this plant, a branchlet springs from nearly every axil on the main branch, showing an extraordinary vigour. As vigour is opposed to a free development of foliage, the small thread-like leaves of Glyptostrobus are naturally to be expected, and the free leaves distichously arranged are the natural concomitant of the weaker Taxodium. Fortunately, I am able to sustain this theory by actual facts. I have a seedling tree ten years old of remarkable vigour. It does not branch quite so much as the typical Glyptostrobus, but much more freely than any Taxodium. The result is the foliage is aciculate, not distichous, and just intermediate between the two supposed genera. But to help me still more, my tree of Glyptostrobus has pushed forth some weak shoots with foliage identical in every respect with the intermediate Taxodium. Specimens of all these are presented with this. In establishing Glyptostrobus, Endlicher notes some trifling differences in the scales of the cones between it and Taxodium, but all familiar with numerous individuals of some species of Coniferæ, Biota orientalis for instance, know how these vary. There can be no doubt, I think, of the identity of the two; and this will form another very interesting link in the chain of evidence, that the flora of Japan is closely allied to that of the United States.

If we were to look on the so-called leaves of Pinus and Sciadopitys as true leaves, we should find serious opposition to my theory that a vigorous axial growth is opposed to the development of free leaves in Coniferæ, for we should see a class of plants which notoriously adds but from three to six branches annually to each axis, clothed with foliage. But admitting them to be phylloid shoots, it confirms our theory in a strong degree. We then see a plant loaded with branchlets, and so great is the tendency to use them instead of leaves, that in some cases, as in Pinus Strobus, P. excelsa, and others of a softer class of Phylloideæ, the bud scales are almost entirely confined to the sheathing leaflets; just as in the very rugged, hard leaved, almost spinescent forms, like Pinus austriaca, we find them more dependent on well-developed adnate leaf scales. In Abies of old authors, A. excelsa for instance, we have a numerous branching tendency; hence we have true leaves though partially adnate, and no necessity for phylloid branchlets. In Picea of Link, almost near Abies, taking P. balsamea as a type, we have a rather weaker development, slower-growing and less hardy trees, and the leaves are nearly free. Could some of the shoots of Abies be arrested in their axial development as in Larix, we should have the remainder increased in length, and the fewer branchlets, and two forms of leaves, just as in Larix. Should on the other hand, the plant increase in vigour, there would be no class of free leaves; adnation would be the law, and metamorphosed branchlets prevail. Starting from Abies, extra vigour makes the Pine, extra delicacy the Larch. It is the centre of two extremes.

That the fascicles in Pinus are phylloid shoots I think cannot be questioned. Their position in the axils of the true leaves, as beautifully shown in Pinus austriaca, indicates the probability. Their permanency in proportion to their induracy is also another point. The soft ones of the Strobus section retain vitality little longer than some true leaves, while the spinescent ones of P. austriaca remain green for four or five years. But the strongest of all points is that on dissection of an old fascicle it will be found to have a distinct connection with the woody system of the tree, and that these minute woody axillæ under each fascicle increase in size with the age of the sheath. With a very little encouragement these woody axillæ can be induced to elongate and become real branchlets. If the leading shoot, for instance, of a Pine be tipped in May just after pushing, bulblets will form in every fascicle below, and the next season the bulblets will produce weak branchlets, although this might be said of true leaves, which are supposed to bear an embryo shoot in the axil of every one. So much stress need not be put on this fact, as the others are sufficient. It is introduced, and its weak nature commented on, as it furnishes the chief point in Dr. Dickson's argument for Sciadopitys, which amounts to little more than that the apparently single phylla is really a double one—a two-leaved fascicle united by a transformed sheath through its whole length. Carrière has since pushed Dr. Dickson's observations farther by noting in the "Revue Horticole" really bifid leaves, with little verticils in the axils (see reference in *Gardeners' Chronicle*, May 2nd, 1868), an observation which I confirm by a specimen exhibited herewith; yet as I have said, it is by itself not wholly free from the objection that it may be but a modified form of regular bud growth; but together with my other observations I think they do serve to confirm the point of these so-called leaves being but phylloidæ.

In conclusion I will restate the main points of this paper:

The true leaves of Coniferæ are usually adnate with the branches.

Adnation is in proportion to vigour in the genus, species, or in the individuals of the same species, or branches of the same individual.

Many so-called distinct species of Coniferæ are the same, but in various states of adnation.—Thomas Meehan (*From advance sheets of Proceedings of American Association for Advancement of Science at Chicago*, 1868, quoted in *American Gardeners' Monthly*.)

NOTES AND GLEANINGS.

The King of the Belgians visited the Kensington garden of the Royal Horticultural Society last Saturday. He was received by some of the Vice-Presidents and members of the Council, and in the conservatory about two hundred ladies and gentlemen were assembled, notwithstanding the inclemency of the day. Messrs. Veitch, Messrs. Arthur Henderson & Co., Messrs. Lee, Mr. Williams, Mr. Turner, Mr. Wimsett, Messrs. E. G. Henderson & Son, and Messrs. Salter exhibited some beautiful groups of flowers; and Mr. Fox had an extensive display of garden vases, ornaments, tiles, &c. A new Hippeastrum was named "Leopold" by the King, at the request of Messrs. Veitch.

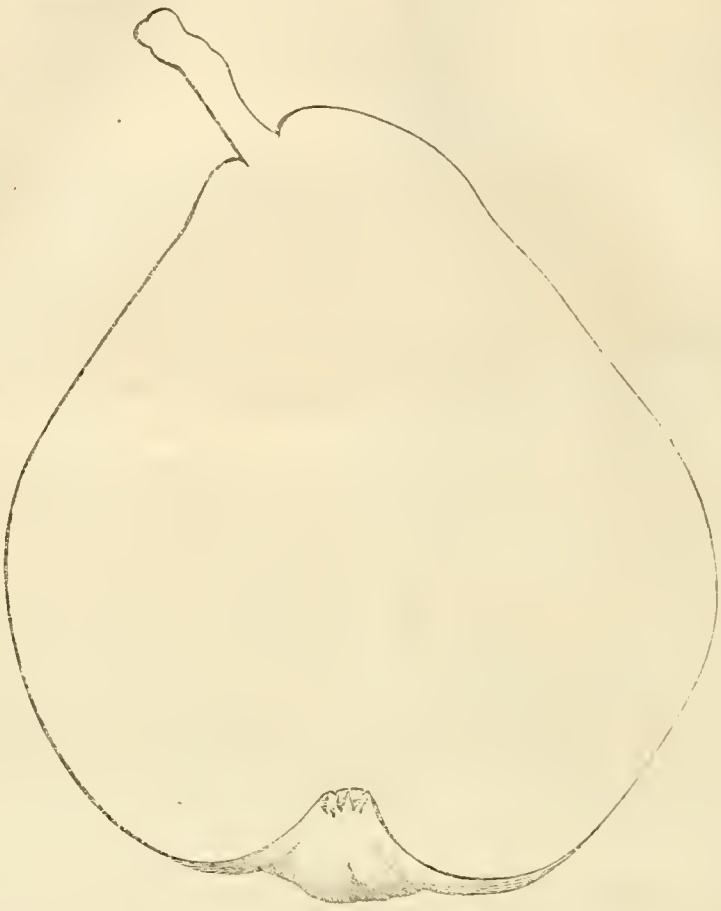
THE DECLINE OF FRUITS IN AMERICA.

One of the great difficulties we have to encounter is the deterioration of varieties. However we may theorise in regard to this matter, it must be admitted, from the practical point of view, that some fruits have so declined as to render it absolutely necessary to replace them with new varieties. And what has been true in the past will be so in the future. Witness certain kinds of Pears in our own day—the St. Germain, Crassane, Brown Beurré, White Doyenné, and others once so excellent; where are they now? Some of them are occasionally to be seen on the virgin soils of the West and South; yet for the great majority of locations they will continue to be worthless. And even on these new soils, where they now flourish in their pristine excellence, we have reason, judging of their future from the past, to anticipate that no long time will elapse before this decline will reach these now favoured regions. Within less than a generation the Pears alluded to flourished throughout western New York, as well as, in their early history, on the propitious soil of France. And even among the more modern Pears we notice—as, for instance, in the Beurré Diel and Flemish Beauty—signs of the same decay. And so with the Grape. Where the Catawba and Isabella Grapes once succeeded perfectly, they seem now to be failing, and in many sections of our country are no more to be relied on. Even the Concord, now so popular, indicates that in time it may follow in the same degenerate strain. While we indulge in these forebodings we cannot but express the deep regret we feel for the loss of such fine fruits. Other fine fruits are following in the same course. This should not discourage us, but rather increase our enterprise for the production of new sorts to keep up the deterioration which seems incident to cultivation. We have to learn not only what varieties succeed in certain districts, but throughout the country. Already we have ascertained that some kinds flourish throughout a wide range of territory. For instance, the Red Astrachan Apple and Bartlett Pear seem to prosper everywhere. When we reflect on the wide expanse of territory daily becoming susceptible of cultivation, and that our fruits must ultimately be spread over these vast fields, it becomes a matter of great importance to increase our native fruits, some of which may be suited to these regions, and thus replace those which may decline. We, therefore, give a hearty welcome to the efforts of all who are labouring in this praiseworthy cause. Who can estimate the importance and value of a new variety of fruit, which shall be adapted to the wide range of our rapidly extending cultivation? He who shall originate a new Apple, Pear, or Grape, which shall be worthy of being handed down to posterity, should be held in remembrance as a benefactor of mankind. He who shall discover a remedy for the Pear blight and other diseases incident to vegetation, which now

affect our trees, or an easy method for the destruction of the horde of insects so alarmingly injurious to our fruit crops, shall have his name transmitted to future time as second only to those who discover methods for the alleviation and cure of diseases which affect the human system.—Marshall P. Wilder (*Boston Cultivator*).

DOYENNÉ DU COMICE PEAR.

The specimen we have here figured was one we received from Mr. Rivers, of Sawbridgeworth, and which was from a tree grown in a 10-inch pot. It weighed 1 lb., and its flavour was as rich as this excellent variety usually is. Mr. Rivers says, "This Pear, unlike many others, ripens kindly under glass, and preserves its full flavour. In the hot summer of 1868 some trees in pots in an orchard house were full of fine fruit; others had a rosy cheek, ripened on the trees, and were quite exquisite."



It is now some years since this fine Pear was first brought to the notice of the Pomological Society at one of its meetings in St. James's Hall. Since that time it has made its way, but slowly, into cultivation, and it is remarkable that it should be so, for we never recollect, among all the specimens of the fruit we have ever seen, having met with one which was not of the greatest excellence. A correspondent says, "As to Pears, Doyenné du Comice is emperor among them; nothing (save Knight's Monarch), is worthy for him even to tread upon—at least of his contemporaries. I could eat him all day long, and begin again at sunset."

Our figure is one of a specimen of unusual size, the average being from three inches and a quarter to three inches and a half long, and two and a half to two and three-quarters wide. The form is long obovate, and often somewhat turbinate. The skin is lemon yellow, speckled all over with pale brown russet, which in some parts is so thick as to form irregular russet patches, and particularly so towards the eye and the stalk; on the side fully exposed to the sun there is a pale rosy cheek. Eye small, half open, with short pointed segments. Stalk an inch long, stout, fleshy at the insertion, and set in a rather deep and narrow basin. Flesh white, buttery, tender, melting, rich, sugary, and delicately perfumed. It is ripe in the beginning and throughout November; but if gathered early it will keep much longer.

This is not only a fine Pear, but by far the finest and most excellent of all our numerous November varieties. The tree grows freely on the Quince, forms a very handsome pyramid, and bears when quite young, but never so abundantly as to require thinning, like some varieties.

This valuable Pear was raised in the fruit garden of the Comice Horticole of Maine-et-Loire, at Angers, and first fruited in 1849.

GROUND VINERIES, CLOCHES, AND RENDLE'S PROTECTORS.

PEACHES AND NECTARINES AS CORDONS.

In page 349, "R. F." expresses his want of experience in the cultivation of these trees as cordons in ground vineries. As I am proud of mine, allow me to give an account of them. It is now three years since I planted in my ground vinery two double cordons, one Peach and one Nectarine tree. The latter has grown more vigorously than the former, and is now 24 feet long, each arm measuring 12 feet; it is a beautiful tree, and full of blooming spurs. This condition has been brought about by incessant summer-pinching to two and three leaves.

This tree is in the centre of a ground vinery 3 feet 6 inches wide, the south side of which opens, not with hinges, but swings on two bolts, one end of which is a screw, which is screwed into the end bar; and that part of the bolt on which the side swings is let into the frame, and is smooth. I enclose a sketch of this much-improved ground vinery. The dotted lines at each end show the position of the bolts on which the light swings, and thus there is a perfect command over the cordon or Vine inside. A small handle is fixed on the bottom bar. This improvement adds but little to the cost; for frames 7 feet long and 3½ feet wide I have paid 10*s.* each, to which must be added 12*s.* for painting and glass, thus giving an area of about 22 feet of cultivable space for cordon trees, Vines and Strawberries or Lettuces.

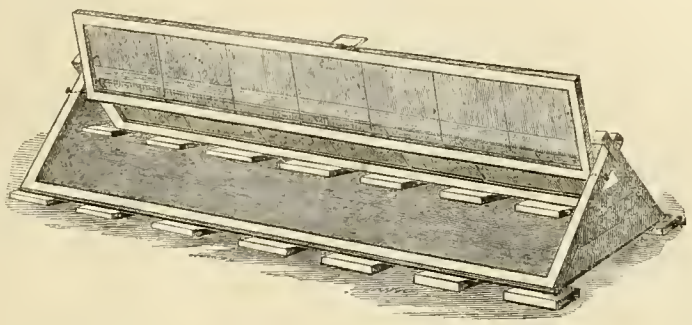
"R. F." says that they, "the ground vineries are dear enough, and that they are huge moveable glasses." I should like to show him mine, for he has evidently not seen their improved state.

The question now arises, Are they more convenient than cloches, which poor Loudon years ago in vain endeavoured to introduce, the duty on glass quite precluding their being made in England? They are now, however, manufactured at a cost of 1*s.* 6*d.* each, and are sold rather extensively to those who are not experienced in horticultural economy, which, like political economy, is not a light study.

If I remember correctly, each cloche 16 inches in diameter, being bell-shaped, gives a circle only 14 inches in diameter—153 square inches of cultivable area, or about 1 square foot. It will thus take twenty cloches to give us 20 square feet, in which to winter Lettuces, &c. Let us now compare the cloche with the improved ground vinery. The cloche can only be used for Lettuces and other winter salad plants, and requires much lifting and trouble. The improved ground vinery, with

one side in a wooden frame swinging on bolts, is equally eligible for the same purposes. The cloche is very liable to breakage, the thick coat of litter required to protect it in winter becoming matted with frost and snow, and often making the footsteps of the workman uncertain, so as to bring on a dangerous stumble. The improved ground vinery may be covered with frigi domo, felt, or double and treble small mats, so as to be perfectly frostproof, without the slovenly litter of a French kitchen garden.

My double-cordon Peaches, Pears, and Apricots occupy the centre of my improved ground vinery. This single row of cordons in the centre leaves a valuable space on each side in which, during the winter and early spring, fine Lettuces may be gathered, or two rows of Strawberries in pots may be partially plunged, so as to give a good early crop before the cordon trees are in full growth. The side swinging on bolts, gives an easy access to all that is grown in these nice structures without moving them, or as is the case with cloches, lifting them off to attend to the plants under their cover.



To make my statement clear, we must revert to the comparative cost of cloches and ground vineries. I have stated above that twenty cloches would be required to give, in round numbers, 20 square feet of cultivable space, the cost of which would be 30*s*. The cost of a 7-feet improved ground vinery, 3½ feet wide, may be estimated at from 22*s*. 6*d*. to 24*s*. In this is a most convenient cultivable space of 21 square feet, and in this space from six to seven rows of winter Lettuces may be grown, as they do not require to be so thinly planted as summer Lettuces. We thus have at a less cost a greater number of plants more easily protected, and easily comeatable, without lifting and without litter. I have taken Lettuces as they are the great boast of those who write about cloches, merely to show that even with them the improved ground vinery is a forward step, leaving out the great advantage of a combined culture—cordon trees or Vines in the summer, and Lettuces and Strawberries in winter and spring.

Our other rival to the cloche is Rendle's plant-protector formed with common kiln bricks,* and a row of grooved bricks, in which is slipped the glass, placed on them. The most eligible width for this most useful and durable structure is 2 feet; a 7-feet length, with 21-oz. glass, fourths, costs about two-thirds the price of the same length of the improved ground vinery. For Lettuces or salads three courses of common bricks at the back may be used, and two courses in front, and on them a row of grooved bricks. No mortar, paint, or putty is required, so that a length of 50 feet may be erected in little more than two hours. For Vines or cordon trees five courses of common bricks are required for the back, and three courses for the front, but the addition of a course of bricks is the work of a very short time. The cultivable space in the plant-protector is less than that of the improved ground vinery, but as its walls are perpendicular every inch may be used. In winter the walls may be closed; in spring and summer air may be admitted by shifting the common bricks so as to form "pigeon holes" in both walls.

The plant-protector may thus be made a warm shelter in the winter, for not only salads, but bedding plants, and may be made frostproof with coarse woollen coverings. It will thus be seen that this second rival to the cloche has many advantages, for instead of a thin bell-shaped covering of glass, very cold at night, and very hot by day, the bricks retain and give out heat so as to neutralise the effect of slight frosts, besides which, without the employment of long stable manure—so offensive in French gardens and so untidy, winter coverings for the protectors and the improved ground vineries will one day be manufactured of shoddy or some other cheap woollen material. In ten years or so the few cloches left in this country after our freezing and thawing cloudy winters, will be looked upon as relics of a bygone age, for English gardeners are now on the alert, and much will yet be done to help our untoward climate. We shall, doubtless, yet have inventions that will put us to the blush when we think of the bell-glasses of French gardens having been recommended to English gardeners.—Vitis-Sator.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Those who are desirous of laying the foundation for a good garden in the ensuing year, should now closely review the routine of cropping for the past summer, and even that of the preceding year. Various rotations are practised by gardeners, many of them being based on no better foundation than the convenience of the hour; but when the kitchen garden is sufficiently extensive, and where much produce is required, the rotation of crops should be carefully studied. An opportunity will now occur of covering the roots of *Asparagus* with a good coat of the best rotten manure. Hard frosts frequently do serious injury to the roots, owing to the want of such protection. Celery ground will answer well for a new plantation; it should be ridged to mellow as the stocks are taken up. The great difficulty is to procure fresh ground for the Cabbage tribe, so numerous are the kinds, as well as successions, in cultivation. Broken-up plantations of Strawberries, Raspberries, and other bush fruit, with Celery ground, should at all times be set apart for some of the Cabbage tribe. The ground in which Celery has been grown, especially in the Scotch or bed fashion, is also suitable for new Asparagus beds. Potatoes prepare ground well for almost any crop. Deep or tap-rooted crops should be succeeded by shallow or fibrous-rooted ones. Carrots and Onions in rich kitchen gardens, will be found a much safer crop if grown on high-raised beds without any manure. The best policy with *Lettuces* intended for the supply next spring, is to allow them to freeze tolerably firm before covering them up. A very light screen of straw should be shaken over them at first, and when this is frozen add a little more, the object being to keep them frozen as long as possible. Above all, do not uncover them when a thaw arrives; let them remain until completely thawed. When the course of cropping has been decided upon for the ensuing year, and duly entered with numbers in the garden book, the usual practice is to set up laths opposite to the space appropriated for each crop, with a number corresponding with the book, and the name of the crop on one side, and on the other the name of the manure, if any, and its quantity, with the mode of cultivation—digging or trenching. This done, a labourer who can read the label can set out or proceed with the work at any spare time. This, therefore, is a matter which should receive attention. As severe weather may be expected, everyone possessing a garden should, as far as possible, protect anything tender.

FRUIT GARDEN.

In all cases in which the leaves have fallen, proceed with pruning and nailing. See that standard trees which have been recently moved or root-pruned are firmly secured against winds; also finish any root-pruning or transplanting remaining to be done.

FLOWER GARDEN.

In most gardens leaves can be collected, and when properly managed they form, perhaps, the most useful source of bottom heat with which we are acquainted, except, of course, hot water. If not already done, the leaves necessary for carrying on the business of the ensuing year should be collected as early as possible, and laid close together to heat. After fermenting for three weeks or a month, they will be in excellent order for use; in this state they will both heat with more certainty and

* Kiln bricks are more regular in their shape than stock bricks.

tread more closely. In order to be ready to make up propagating-beds of all kinds, or to form linings, it is necessary to have in the course of next month a mixture composed of hot dung and leaves; therefore, before it is to be put up into a bed, a quantity of hot dung should be drawn from the stable-yard to the leaf yard, thrown together, and well watered, in order to allow the fiery heat to escape. When fermented thus for a week or so, the manure may be mixed with leaves. About four parts of leaves to one of hot manure, will make an enduring mixture. This provided, a good hotbed can be made up at any time, for if the dung has had one heating previous to its mixture with the leaves, little danger need be apprehended from impure vapours, provided the most ordinary precautions be observed. The chief anxiety of the amateur, as far as Tulips, Dahlias, Carnations, Pinks, &c., are concerned, is now at an end. Tulips ought all to be planted, and if the bed has been properly made will require but little attention till they are fairly out of the ground. Dahlias ought all to be out of the ground by this time, and their tops cut off; and having been exposed under cover in a dry airy place, they will be ready to be stored. Carnations must be kept hardy—that is to say, if they have been potted early; if obtained since the middle of October they will require much more attention, for at this time being comparative stationary, it will be found that late-potted layers are more susceptible of damp and frost than those which are well established. Take the first opportunity of carefully looking over Carnation layers that are in frames; it is possible that dirt may have settled in the axils of the leaves; as this retains moisture in a very inconvenient degree, it is highly necessary for the health of the plants that it should be removed. Modes of storing half-hardy plants vary in different situations; some persons can afford pits, some even can spare house room, and some are driven to the cellar. Whatever mode be adopted, let it be borne in mind that confined damp is nearly as prejudicial as frost. A lean-to shed is a very good place, and plants with a ball of earth dried on them, will keep very well here plunged in coal ashes, with the addition of an old mat and a little straw over the shed during severe weather.

GREENHOUSE AND CONSERVATORY.

Owing to the mildness of the weather, some of the very earliest Camellias may now be coming into bloom, and where this is the case take care to keep as low a temperature as possible, in order to prolong their beauty. All drip must be avoided. The general collection will soon be making a fine display. They should, therefore, receive careful attention as to watering with tepid weak liquid manure. Let them not, however, receive a drop until they are really in want of it, and then give it liberally. If in the case of over-dryness air bubbles arise, continue to fill up with water until they cease. Let not a drop be spilled on the conservatory floor at this period, and give a little air at back all night, in order to let atmospheric humidity pass off. See that early-flowering Cinerarias have the lightest place in the house, and be kept close to the glass. Crowding is very prejudicial to this plant. Let plants of Eranthemum pulchellum coming into bloom have abundance of water and a warm situation. Early Hyacinths will also soon be in flower, and with care a succession of them may be kept up till spring. For late-flowering bulbs the best pots are those 5 inches in diameter (48's) for one bulb, and 6 or 7-inch pots for three bulbs, and where a fine display is desired, three grown together in one pot secure that object much better than single bulbs. For potting, the soil should be as rich as possible, such as one-half fresh loam cut from a pasture, with the turf decayed in it, well-decomposed cow or horse dung, and a small quantity of sand well mixed. Drain efficiently, and after filling the pots lightly with the soil recommended, or, if it cannot be had, the richest and lightest at command, place the bulbs upon the surface, slightly pressing them into the soil. After watering, if the soil is not sufficiently moist, set the pots out of doors on a dry bottom, and cover them with old tan, ashes, &c. After remaining there for a month the bulbs will be sufficiently rooted to render it safe to remove them to a gentle bottom heat of about 55°, introducing the pots in numbers proportionate to the demand at intervals of about a fortnight.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Celery.—Took the opportunity of earthing-up the last piece of Celery, placing dry ashes and burnt earth round the stems of the plant. As yet we have not had a single plant that was not fit for table use. When we lose at all, we expect it will be by damping, and not by bolting. Our last bed has had little earthing-up. We planted it out chiefly in the hope that it might come in for soups, &c., in spring, rather than with the hope it would be of much service in the salad bowl. Had we the chance of plenty of dry slubble or dry litter, we would pack it firmly among the plants of our Celery beds, and then we would need to be less careful in protecting from frost. Though as yet we have not had enough of frost to collect ice for the ice house, we have thrown a little litter several times over the Celery beds. We find the Celery keeps all the better if the exposed leaves do not suffer much from frost.

Root Crops.—All our roots, with the exception of Parsnips, are now safely under cover. Carrots are never so good if left in the ground in mild weather so long that the fibres begin to come from the sides. Beetroot is easily injured by frost, and in our case we find that when the roots have come to their best they are apt to be injured by rats, which make as much havoc with the crowns as rabbits do with the sunny side of Turnips. Where there is plenty of room, all such roots may be well kept in small heaps. To make the most of shed space, they are generally sorted, and built in narrow heaps packed in dry sand. For this purpose sand, or burned or dried earth, is the best, and sawdust, whatever the nature of the wood it come from, is the worst. It deteriorates flavour, and is apt to become heated to such an extent as to cause the roots to decay. When dry sand, &c., is not to be had, we have found no better plan than building in layers, each layer being separated from those next it by layers of dry twiggy branches, and of these the Larch and the Spruce are, perhaps, the best. These keep the roots long fresh and cool by the free ingress of air. Carrots keep longer juicy and sound if a thin slice be removed with the top. If not done now, it may be done any time in January or February. When Carrots are kept for seed, the tops must remain entire.

FRUIT GARDEN.

We have had acceptable rains, none too early, as water was becoming scarce in this neighbourhood, many large ponds being quite dry. The ground is now more suitable for all kinds of planting. Planting fruit and forest trees, pruning, tying, &c., were entered into somewhat in detail some weeks ago, as well as replanting and root-pruning, and there is nothing much we could add.

Being apprehensive of wet, we had the remainder of our Strawberry plants plunged in leaves on a vinery border, and some old lights placed over them. Placed also in a heated pit plants showing, and others on shelves where they would be gently excited; also filled a frame where there is a gentle bottom heat, the pots standing on the surface, not plunged, as much bottom heat would be injurious now in the case of pots well filled with good roots. Removed yellow leaves and any berries inclined to damp in the late vinery, and gave a little fire heat with top air in dull drizzly days, allowing the fire heat to decline towards evening. Gave front air, and only sparingly, in clear mild days. We have been a little troubled with rats gnawing the Vine stems that come through the front wall. We never knew them meddle with stems of Vines planted inside the house—a good additional reason, joined to others, why it is advisable that Vines should be so planted. A press of other matters has prevented our going on with pruning, &c., as we would have wished, for the spring always brings more than enough of work with it.

ORNAMENTAL DEPARTMENT.

Cleaned, swept, and rolled, as a mere matter of routine. This is very suitable weather for fresh turfing and ground work of all kinds. Collected leaves in the park, knowing that if a few dry and windy days should come we should see no more of the leaves, and every season finds us short of leaf mould for many purposes. Nothing else will exactly take the place of leaf-mould compost when well exposed to the air and sweetened. It is, however, not safe for many purposes, if used when only about half decayed. We had some potting done with a little of what seemed sweet half-decayed leaves put over the drainage, and we had to take the plants out and repot them, as the spawn of various fungi were filling the leaves and spreading through the soil. We believe fungi and mildews develope themselves in borders and quarters from using such material too fresh, and in a rank unsweetened state. We may thus easily find an enemy where we thought we had a sure friend.

We find nothing so good for *drainage* as a little clean fresh moss over the crocks, one crock over the hole, and the moss is often more effective than a handful of crocks without it. It retains moisture, and parts with a superabundance of it. When

worms are likely to be troublesome, and metal bell-caps are not need, the convex side of a good-sized piece of broken pot should go over the hole in the bottom of the pot, a few smaller pieces over that, then a little clean moss, and just a dusting of fresh soot. You cannot place a convex crock so firmly over the hole in the bottom of the pot but the water will find its way ont, and yet scarcely the smallest worm can wriggle itself in, and the moss for a long time will prevent the earth passing among and so choking the drainage. All these evils are apt to take place, besides the spreading of spawn, when half-decomposed tree leaves are used for this purpose. If we had to use them at all we would use them fresh and dry. Chopped, slightly charred straw, is the best substitute we have found for moss, but it is not equal to it. Small sifted charcoal, deprived of the dust, makes a capital drainage above the crock and beneath the moss. From an eighth to a quarter of an inch in thickness, when pressed by the earth, would be enough of moss for a small pot, and more in proportion for larger ones, as nothing is gained from the moss worth speaking about, except assistance to free drainage, and equalising the moisture in the soil.

The dull moist weather has rendered necessary careful watering, and looking after damped leaves. The bedding Pelargoniums, &c., taken up saved us most of this trouble, as all the leaves were removed. Potted and placed a lot of Lily of the Valley in a mild hotbed, selecting the best crowns as frequently detailed. Cinerarias, kept cool in a pit, have never yet been touched by the green fly. A cool atmosphere, and, above all, a cool bottom are what they delight in, and what no insect cares for.

Flues.—In the first column, page 423, below a line in italics, "of the top of the flue," should be "of the bottom of the flue," a very great difference in general, though not so much as respects the flue alluded to. In the flue mentioned, and with our consent, in no flue whatever are there any plasterings inside.—R. F.

COVENT GARDEN MARKET.—December 1.

There has been a slight advance in some things, but the general tone of the market is not at all what we usually experience at this season. Good hothouse Grapes, both Muscats and Hamburghs, are in request, but Pines are much in excess of the demand. The Potato trade is very dull, the supply by rail being very heavy.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	3	0	to 5	0	Mulberries .... quart	0	0	to 0	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	0	0	0	0
Cherries..... lb.	0	0	0	0	Oranges 100	6	0	12	0
Chestnuts.... bushel	8	0	14	0	Peaches ..... doz.	0	0	0	0
Currants .... ½ sieve	0	0	0	0	Pears, kitchen .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	dessert .... doz.	3	0	5	0
Figs ..... doz.	0	0	0	0	Pine Apples ..... lb.	3	0	5	0
Filberts ..... lb.	0	6	1	0	Plums ..... ½ sieve	0	0	0	0
Cobs ..... lb.	0	6	0	9	Quinces ..... doz.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Raspberries ..... lb.	0	0	0	0
Grapes, Hothouse . lb.	3	0	6	0	Strawberries .... lb.	0	0	0	0
Lemons 100	6	0	10	0	Walnuts .....bushel	10	0	16	0
Melons ..... each	2	0	3	0	do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d		s.	d.	s.	d
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce..... score	1	0	2	0
Beans, Runner ½ sieve	0	0	0	0	Mushrooms.... pottle	1	0	2	0
Broad .... bushel	0	0	0	0	Mustd.& Cress, punnet	0	2	0	0
Beet, Red.....doz.	2	0	3	0	Onions ..... bushel	3	0	4	0
Broccoli .....bundle	1	0	1	6	pickling .. quart	0	4	0	8
Brus. Sprouts ½ sieve	3	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	0	0	0	0	Peas ..... quart	0	0	0	0
Carrots.....bunch	0	4	0	8	Potatoes .....bushel	2	0	4	0
Cauliflower..... doz.	3	0	6	0	Kidney.... ditto	3	6	4	0
Celery..... bundle	1	6	2	0	Radishes doz.bunches	1	0	0	0
Coleworts ..doz.bchs.	2	0	4	0	Rhubarb..... bundle	0	0	0	6
Cucumbers .... each	0	6	1	0	Savoys..... doz.	1	6	2	0
pickling .... doz.	0	0	0	0	Sea-kale ..... basket	3	0	4	0
Endive .....doz.	2	0	0	0	Shallots .....lb.	0	0	0	6
Fennel .....bunch	0	3	0	0	Spinach ..... bushel	3	0	3	6
Garlic ..... lb.	0	8	0	0	Tomatoes ..... doz.	2	0	3	3
Herbs ..... bnch	0	3	0	0	Turnips ..... bunch	0	4	0	8
Horseradish ..bundle	3	0	5	0	Veget. Marrows..doz.	0	0	0	0

TO CORRESPONDENTS.

Books (*Francis Allum*).—"The Garden Manual;" you can have it post free from our office if you enclose twenty postage stamps with your address.

Binding the Journal of Horticulture (*A. L.*).—We have no covers for two volumes in one. We had them made once, but there was too little demand for them.

Apple Trees from Pips (*Deerhound*).—They will bear without grafting. The Royal Agricultural Society's Journal can be obtained in numbers. The price is 6s.

Grapes (*W. H. W.*).—The reason of their not colouring was the Vines having been allowed to carry too heavy a crop. The bunch of Muscat of Alexandria, though small, had good-sized well-flavoured berries.

Vines not Productive (*F. D. J.*).—In such a case we would advise what we want to do ourselves—to clear out at least a part of the house, make a new border, or part of it next the house, and plant afresh. As what would be likely to improve the old Vines, we would take away as much of the surface soil as we could without injuring the roots, and add 3 or more inches of fresh compost of fibrous loam, with a third of equal parts of broken bones, charcoal, and lime rubbish, with a little quicklime as a dressing, if the old soil of the border is rich and effete. Then put on a foot or 15 inches of leaves, litter, or fern, just to throw a little heat into the surface of the border, and encourage the roots to send fibres into the fresh material. Such a border could be mulched in summer, and treated next season in a similar manner. The radical cure would be fresh planting, or replanting the present Vines in fresh material.

Dressing Vinery Border (*Muscat*).—By all means remove the old dung from your Vine border before replacing with the fresh manure; but in doing so leave any little part where the Vine roots have come through.

Management of Ground Vinery (*J. W.*).—We would leave the lights on the ground vinery all the winter; never move them, unless to do the necessary work. Much of the success depends on having the wood well ripened and hardened in autumn, by giving the Vines all the heat from sunshine possible without scorching, which is scarcely probable with the ventilation at the sides. We hope you will be more successful next season.

Forcing a Vine (*A. K.*).—The Vine from which the leaves are only just falling will hardly be in a fit state to force to ripen the fruit in May, especially as the roots are in an outside border; but as you do not mind weakening the Vine, you may, if the wood is ripe, clear away all the leaves, and in a few days prune the Vine, keeping the house cool, and in a week's time, after the Vine is pruned, there should be 2 feet of hot dung placed on the border, and over that a foot of dry litter or straw, with a slope so as to throw off the wet. The dung on the border should be supplemented with fresh as required, so as to give a gentle warmth to the border, and consequently to the roots of the Vine. In a fortnight after the border is covered you may commence forcing, the house being closed, as it is termed, and by maintaining a good heat, after the Vines are in leaf, you may have fruit at the end of May or beginning of June.

Bones for an Outside Vine Border (*W. B. B.*).—You could not have a better manure than bones for a Vine border. We suppose they are old and dry, and only need to be broken small. You may break them with a heavy hammer, but they are much better broken at a boneworks, where they are converted into what are known as half-inch bones. The best time to apply them is in February, or if the weather be wet, as soon after as the soil is not claggy. For the size of border you name, 4 cwt. will be a sufficient dressing, applying the bones broadcast, and forking them into the border as deeply as can be done without injury to the roots.

Evergreens for a House Front (*F. M. C.*).—As you confine us to evergreens, we must omit many climbers which would be suitable. The following are evergreen climbers or sub-scandent plants, suitable for a wall with south aspect:—Billardiera scandens, B. longiflora, Berberidopsis corallina, Bignonia radicans, Caprifolium brachypodum aureo-reticulatum, C. sempervirens floribundum, Jasminum revolutum, J. Wallichianum, Lardizabala biternata, Passiflora cærulea, Ceanothus azurens, C. floribundus, C. integerrimus, C. papillosus, Escallonia macrantha, E. glandulosa, Garrya elliptica, Ligustrum japonicum and variegated sorts, and the Exmouth variety of Magnolia grandiflora.

Camellias and Azaleas for a Cold Frame (*A Beginner*).—Unless you can exclude frost by a covering of mats or straw they would not succeed, especially the Azaleas, as to do well they require heat to make new growths and set the buds. However, they will endure a few degrees of frost without injury, and it is well worth a trial. Your plan would be to secure plants now set with buds, and place the pots on coal ashes, surrounding the pots with hay secured by matting, to protect the roots from frost. During winter the soil should only be kept moist, and air should be freely given in mild weather to dry up damp, no air being admitted when the temperature out of doors is below 40°. Protect at night from frost, and during days of severe frost the plants ought also to be protected, not uncovering them as long as the frost continues, unless the external temperature exceed 40°. After flowering, place in the frame, potting if required, and sprinkle with water morning and evening, watering copiously, and not allowing the soil to become dry. Air should be given moderately, and shade from bright sun until the growth is complete; then admit air more freely, and omit the sprinkling with water overhead, drawing off the lights, especially at night, and shade from very bright sun by a light covering up to September, when they should have full exposure until the nights become frosty in October, still continuing to give air whenever an opportunity offers, protecting from frost as before. *Camellias:* Alba plena, white; Bealii, crimson; Fimbriata, white; Valtevaredo, rose; Alexina, white, striped and blotched with carmine; and Teutonia, pale rose, striped white. *Azaleas:* Amœna, rosy purple; Gledstanesi, white, striped red; Rosea elegans, rose; Magnifica, white; Stanleyana, rosy scarlet; and Etoile de Gand, shaded salmon, white margin.

Azaleas Wintering in Cold Pit (*Azalea*).—The Azaleas will winter safely in a cold pit if you can keep the frost from them, which you may do if the sides of the pit be banked up with ashes, and a sufficient covering placed over the lights. They would, however, be more safely wintered in a cool house, where a little fire heat could be given them in severe weather, and you may retard the plants by moving to the cold pit in February, shading and keeping cool.

Destroying Woodlice in Forcing Pits (*Subscriber to Journal*).—Firm the soil round, place a little hay there, and early in the morning pour boiling water on the hay and wall. You will thus kill thousands. Repeat this a few times. If this plan cannot be adopted, put boiled potatoes, enveloped loosely in a little hay, at the bottom of small flower pots. Lay the pots on their sides near the haunts of the woodlice, and in the morning shake out the contents of the pots into a bucket of boiling water. This persisted in will soon thin their numbers. A few toads are good in pits and houses infested with woodlice.

TECOMA JASMINOIDES NOT FLOWERING (*Ignoramus*).—The want of flowers is, perhaps, a result of too-vigorous growth, the soil being too rich, and the roots having an unlimited amount of border. The plants do best when the border is restricted to a space about 2 feet wide and deep, and twice that in length, the border being well drained and filled with a compost of two parts fibrous loam, one part of sandy peat, and one part of leaf soil, with a free admixture of sharp sand. When growing, water the plants freely, and keep the shoots from becoming too crowded by thinning them out as required, and training before the shoots become entangled. When a good growth is made, give no more water than will keep the shoots and foliage fresh, otherwise keep the plants dry, and give them all the air practicable, with as much light as possible. Keep the plants dry during the winter, thin the shoots in spring, and if you keep them from becoming too much crowded, we think you will have flowers next year.

RIBBON BORDER (*H. B.*).—Your proposed mode of planting will do something to bring in Hyacinths, Van Thol Tulips, Crocuses, and Snowdrops more together, but Nature will have her way. To have a blaze of bloom and no fading flowers near, why not plant in beds or groups separately? Do what you will, the bulbs will not bloom all together, unless only one kind is used in a place, and that, too, one kind of one plant. For instance, a bed of mixed Hyacinths will rarely open all on the same day or in the same week.

SLUGS IN A PIT (*H. V.*).—In your turf pit you find the turf brings many slugs, which destroy the cuttings, and you propose taking the plants from the board shelves and setting the pots on, or in, warm tan. The tan, if not too warm, would encourage growth, but it would also encourage damp, and be the very thing for the slugs to nestle in whenever it became the least mild. We would by far prefer the wooden shelves. To get rid of the slugs, we would first examine the pots, and see there was none lodging in the hole in the bottom. They can make themselves almost as thin as a hair, and go in and out of the hole at the bottom of a pot when set on a board. Next we would bait all the sides of the pit with young cabbage or lettuce leaves that had received just a taste of melted butter or dripping, and examine them in the morning. Small heaps of brewers' grains would be rather more attractive. Then, to make quite sure, we would run round our shelves a slight cordon of dry quicklime and soot, which for a time would be as impassable to the slugs as the running stream to the witches. We do not think that the little white worms near the stems of your cuttings and young plants are the cause of their rotting away. However, they will do no good, as tending to disturb the roots and the open free texture of the soil. If not very bad, if the plants need watering, use clear lime water, which will most likely kill the worms. If very much infested, it will be better to turn the balls out and repot in fresh earth. Common worms are very anxious to enter at the bottoms of the pots. A cap over the hole will stop them, and so will a common rounded crock or piece of a broken pot, if the rounded or convex side is placed over the bottom of the pot so as to fill the hole securely. Some small drainage placed over that will insure the free exit of water. We suspect your little worms are larvæ that were in the soil used. We know of no security except destroying all such living things by heat, and then exposing the soil to air before using it. Even already you find there are troubles in gardening.

BURNING EARTH (*Idem*).—To burn earth and weeds, nothing more is required than to make a good fire with some large roots, &c., in it, and as soon as the fire breaks out keep putting on more material.

SIZE OF HORSE CHESTNUT TREES (*J. Anderson*).—In your alluvial soil near Spalding their heads would, probably, be 40 feet in diameter; but, as we said before, vigour of growth and the form assumed by the trees are controlling circumstances which we cannot foretell.

HEATING A GREENHOUSE BY A FLUE FROM A GRATE (*Greenhouse*).—See answers to correspondents at page 425, and "Doings of the Last Week," page 423. Much will depend on the relative position of the grate in the opposite side of the wall, and of the floor of the house to be heated. If the floor is considerably above the level of the grate, there would be no difficulty as respects a flue, if the fireplace of the grate should be so shut in as to leave air only at the bottom. This might be the best plan for a good-sized house—taking the flue into the chimney, but blocking up the old chimney beneath to prevent a back draught. If the house is middle-sized, the fire might be made to draw at once into a fresh small chimney built against the back wall of the greenhouse, and with a reduced opening, say of 4 inches, into the old chimney. In this case the bottom of the present chimney must be stopped to prevent back draught. In such a case, if the fire were used in summer, the new chimney could be stopped and the old one opened. If the house is small, the fireplace could be opened into a brick stove on the other side, say 2 feet square and 3½ feet in height, the opening into the old chimney being made at about 9 inches from the top. This plan might be adopted if the grate and greenhouse floor were on similar levels. If the house is very small, the simplest plan would be to place the curve of two 3-inch pipes bent like the letter U, thus—⊂ in the fireplace, with the open ends 2 or 3 feet in the house. If the fire in the grate were continuous and pretty strong, these pipes might be connected with a cistern, and then you would have hot water. Even with short pipes you would obtain much heat, and the milder it would be at the mouth of the pipes in proportion to their length. Even with a short pipe, if open beneath a stage, &c., a good distance from plants, the dry heated air would be moistened enough before reaching them, or if means were taken to moisten the dry air. If you give us more particulars we will do our best to assist you, though the above and the references will most likely enable you to decide.

HEATING A PROPAGATING HOUSE (*J. C. L.*).—You do not state the size of your house for propagating and for Cucumbers, but so far as we can make out, as the pipes at present at work are outside your bed and pit, we would let them remain where they are for top heat, and take a flow and return through the bed, previously filled with tan, for bottom heat. Two 3-inch pipes would do admirably for such a narrow pit, either by themselves, surrounded by stones, on the gravel, or laid in a tank; or you might have no pipes further than a flow and return into a divided tank. A brick and cement tank will answer perfectly. Two bricks-on-bed will answer admirably for the sides, and a brick-on-edge for the centre, with a tile to make the level right. The tank had better be 2½ feet wide at least. It would be best to have the bottom heat independent of the top heat. The tank covered with slate would answer all the purposes stated, but for Cucumbers it would be well to have some rough material over the tank, such as clinkers, &c., before placing the soil on. For propagating, sand, &c., would be needed for plunging the pots. The boiler would, no doubt, do the additional work if properly placed. See what was lately stated in answers to correspondents. Were we in your case, and used pipes, we would not trouble ourselves with the tank. If we resolved on a tank, though the pipes would make it surer, we would make the tank well, and be satisfied with it. A small wooden tank, like a brewer's cooler, some 4 inches deep, covered with slate, would last a long time if kept full of water and not painted.

MANAGEMENT OF CORDON PEACH TREES (*J. J H.*).—"You do not state if they are under glass or in the open air. This is important, for I have distinctly declared in the 'Modern Peach-Pruner' that I do not recommend Peach cordons for the open wall, unless under a system analogous to that of Dubreuil's first. This plan, I think, is now being carried out—modified by his own judgment—by Mr. Radclyffe, and I am much interested in the result. He calls it 'herring-bone,' and it gives a greater lateral scope to the spurs and shoots, thereby increasing the vigour of the whole tree. Under glass, however, we require a closer pruning, and I recommend pruning to four leaves as soon as six fully-grown leaves are formed. The two upper buds of these four may burst, but the two lower ones will remain dormant, and become fruit-bearing. The second growth, when four leaves are made, is reduced to two leaves; the third growth is reduced to two leaves, or allowed to elongate, according to the vigour of the tree. In forming a Peach cordon during the first year, however, only equalise the shoots to 6 or 8 inches, and at the winter regulation cut back to two healthy eyes, each of which will next summer send out a shoot, which two shoots are henceforward to bear alternately. One shoot, left long, bears the fruit; the other, cut back, carries the succession wood. This refers to diagonal cordons under glass; potted trees must be more closely pinched back, say to three leaves instead of four. But the great point is to secure sufficient shoots on each spur to be able to prune on the 'alternate system.' This never has failed me.—T. C. EBÉHAUT."

APPLES ON SOUTH WALL (*Centurion*).—The Red Astrachan being an early Apple is altogether unsuited for a south wall, and having it there is a great waste of space. It will be far better to move it, and grow it in the form of an open espalier as you propose, and the same with the Yellow Bellefleur. We have no acquaintance of Monstrueuse d'Amerique. We should think, however, it would prove the most suitable of the three. If you really wish for Apples on your south wall, the best varieties you could cultivate are Calville Blanche and Reinette du Canada. The Elruge Nectarine is the best variety for general cultivation.

WINTER-DRESSING APPLE, CHERRY, AND PLUM TREES (*J. P.*).—When the trees are pruned, dress every part of them with a composition formed of 8 ozs. soft soap, 1 lb. flowers of sulphur, with sufficient tobacco water to form a thin paint. The tobacco water of the shops may be used, or it may be made by pouring a gallon of boiling water on 8 ozs. of tobacco, letting it stand until cool, then strain. To take away the colour of the sulphur, add enough soot to the gallon of tobacco water, besides the sulphur and soft soap, and in that way form a thin paint, with which dress the trees, rubbing it well into every crevice, taking care not to dislocate the buds. We have no experience of spent logwood from a drysalter's, but should not think it desirable for fruit trees.

LACHENALIA, TRITONIA, AND TIGRIDIA IN POTS (*A Young Countryman*).—The Lachenalias are greenhouse bulbs, and should be grown on shelves near the glass. They should be potted as soon as growth commences. Continue to water them as long as the leaves remain green, but no longer; keep them dry until they begin to grow, which usually is at the end of summer. The winter temperature should be from 40° to 45°. The soil most suitable is sandy peat two-thirds, and one-third fibrous loam, with a free admixture of sharp sand. The bulbs are best surrounded with sand, especially those of the small species. In potting, cover the bulbs to the neck, and provide good drainage. Tritonias should be potted in October, not disturbing the ball, except for the purpose of division, and after potting water so as to settle the soil about the roots, and keep the soil moist even in winter, and the plants secure from frost. They may be grown successfully in a cold pit or cool greenhouse, placing them out of doors after May, watering them copiously, and sprinkling them overhead frequently to keep down red spider. A compost of four parts fibrous loam, two parts sandy peat, one part leaf soil, and one part of old cow dung, with a free admixture of sharp sand, and good drainage, will grow them well. Tigridias are hardy bulbs, but may be grown in pots, in a compost of two-thirds sandy fibrous loam, and one-third leafsoil. They should be potted in March, if they have been kept over the winter in soil in a cool, dry house, but safe from frost. They should be well watered, and may be planted out in May, taking them up at the end of summer, potting, and keeping them dry during the winter.

GOLDEN FEATHER PYRETHRUM PROPAGATION (*X. X.*).—You may take cuttings of the plants in February or early in March, and in a gentle heat they soon root. The shoots that come from the base of the plant should be slipped off; and after their base has been pared smooth with a knife, they may be inserted in sandy soil and placed in a gentle hotbed. The plants will be fit to put out in April. Seed sown early in spring will give plants for putting out in May, and seedlings are not so liable to form so great a profusion of white starry flowers as cuttings, and on this account we think seedling plants best; but cuttings are generally the best in point of colour of foliage.

CENTAUREA CANDIDISSIMA PROPAGATION (*Idem*).—We presume you have the plants in pots. Place them in a house where there is a gentle heat (50°) in February, and when the side shoots are 3 or 4 inches long take them off close to the stem, pot in sandy soil, surfacing the pots with sand, and place them in a gentle hotbed of 70°, keeping them close, but being careful not to overwater, or the cuttings will damp off. They will root in about three weeks or a month, and be good plants by the end of May. There is no difference between C. candidissima and C. gymnocarpa.—G. A.

PASSIFLORA QUADRANGULARIS FRUIT (*J. B.*).—Dr. Hogg in his "Vegetable Kingdom" says, "P. quadrangularis is the common Granadilla or Granadilla Vine. It is a native of Jamaica and South America, and produces a large fruit of an oblong shape, 6 inches in diameter, and 15 inches in circumference. The skin is of a greenish-yellow colour, and, when ripe, soft, leathery, and very thick, but contains a succulent pulp of a purple colour, which is the eatable part. The flavour is sweet, and slightly acid, and is very pleasant to the taste, especially in a hot climate. It is generally eaten with wine and sugar." The blossom is

that of Nerine undulata; the Pinus, P. Pallasiana, and the Picea, P. grandie.

Cupressus variegated (*J. B.*).—We do not know a Cupressus of the name you give, but it would likely succeed from cuttings put in now in sand in a cool house, covering them with a hand or bell-glass, and keeping the soil moist but not saturated. It would have been better had the cuttings been put in earlier in the season, but they will yet succeed. They would no doubt retain the variegation the branch at present exhibits.

Pyramidal Pans for Selaginellas (*E. L. J.*).—We do not know where these may be had in London, but they may be had of most dealers in flower pots.

Lilium auratum and lancifolium Potting (*Rev. W. H.*).—It is now a good time to pot these bulbs if not done before, giving them an increased size of pot, and in potting do not disturb the ball beyond removing any loose soil without injury to the roots. The soil ought to be kept moist during the winter, and when the plants are growing they should have a light, airy position. They succeed in a cold pit, protection being given from frost, or they may be kept in a cool greenhouse. Your other question is answered in "Our Letter Box."

Indiarubber Plant's Shoots Dying (*Amateur*).—It is owing to the plant not having sufficient heat to mature the growth, and it dies back from the cold and damp. Give more heat and moisture in summer, so as to secure a good growth; it will then succeed in a greenhouse temperature in winter.

Cyclamen Seed Sowing (*Idem*).—You do not say what variety you wish to grow; but we advise the seed to be sown now in pans well drained and filled with a compost of two parts fibrous sandy loam, one part peat and leaf soil, and one part sandstone, broken small, and silver sand, the whole well mixed. Level the surface, scatter the seeds evenly, and cover with fine soil. Water gently, covering the pan lightly with moss, and place it in a house with a temperature of from 50° to 55°. Keep the soil moist and near the glass, admitting air freely when the plants appear. When they have made two or three leaves, pot them off singly into small pots, and in summer remove them to a cold frame, keeping moist, and shaded from bright sun. Pot as may be necessary into larger pots, and take in-doors at the end of September, placing the plants on a shelf in a house with a temperature of 45°; and with due supplies of water, and potting as required, you may probably flower them the spring after next; if not, let them go to rest in summer, potting them when they begin to grow. They will flower in autumn, winter, or spring, according to the sort. In potting cover the corm with soil. A little old cow dung may be mixed with the soil. Good drainage should be given.

Tea Roses in Pots (*Calcaria*).—There is very little doubt that Tea Roses would succeed very well planted in the open ground and protected during winter with a curate's ground vinery. Care should be taken to keep the air as dry as possible, and to raise the sides of the ground vinery sufficiently to allow plenty of ventilation. During severe weather a little clean straw might be thrown to the sides of the frames, and it would be better if they were placed to face east and west, so as not to have the full sun from the south in the spring. The soil should be well forked over and manured, and if at all heavy a liberal supply of leaf mould should be added, the whole mulched for the winter with short manure, and in the summer with cocoa-nut fibre, as under a frame the roots would be more inclined to draw to the surface and would suffer from the summer's sun. The plants ought not to be nearer than 18 inches, and the stronger shoots might be pegged. The following sorts on the Manetti stock would answer well with this treatment:—La Boule d'Or, Louise de Savoie, Madame Willermoz, Madame de Vatry, Souvenir d'un Ami, Monsieur Furtado, Narcisse, Niphetos, Adam, Josephine Malton, Madame Bravy, and Madame Margottin.

Leaf of Seedling Pelargonium (*A. R.*).—The diameter, 8½ inches, is very large.

Border Tiles.—"*E. K.*" and "*C. Princep*" wish to know where the border tiles mentioned in page 419 are to be obtained.

Names of Plants (*Rev. R. H. C.*).—Asclepias curassavica. (*Filices*).—2, Polypodium appendiculatum; 6, Pteris serrulata; 9, P. cretica, the typical green form. The other numbers not received by us. (*A Surrey Subscriber*).—Lamium maculatum. (*W.*).—Dendrobium Gibsoni and Maxillaria Parkeri. (*Agra*).—Asplenium Adiantum-nigrum. (*Devonia*). 1, Asplenium Adiantum-nigrum, the typical form; 2 and 3, A. Adiantum-nigrum, var. obtusum; 4, A. Trichomanes. (*R. Buck*).—Vallota purpurea. (*W. S., Birkenhead*).—Dendrobium heterocarpum, otherwise D. aureum. The other Orchid we have not yet recognised.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending November 30th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 24	29.771	29.525	42	23	44	44	N.	.00	Densely overcast; overcast; densely overcast; frost.
Thurs. 25	29.847	29.813	51	38	43	44	N.W.	.00	Frosty fog; very fine; clear and fine.
Fri.... 26	29.720	29.712	50	36	45	43	W.	.00	Overcast; densely overcast; cloudy and overcast.
Sat.... 27	29.720	29.407	46	42	45	44	S.W.	1.04	Rain; heavy rain; exceedingly heavy rain.
Sun... 28	29.725	29.403	51	23	46	44	N.W.	.00	Cloudy; very fine; clear and cold; frosty air.
Mon... 29	29.930	29.826	40	35	44	44	W.	.40	Overcast; frosty air; densely overcast; rain; drizz ing rain.
Tues.. 30	29.860	29.625	41	22	44	43	N.	.00	Overcast and cold; very damp; clear and frosty.
Mean..	29.793	29.616	45.86	31.71	44.43	43.71	...	1.44	

POULTRY, BEE, AND PIGEON CHRONICLE.

A QUID PRO QUO.

Knowing that poultry shows very seldom pay, "Egomet" might admit that committeemen work hard and put their hands in their pockets for the improvement of our pets and the good of the poultry world generally, and that committeemen consider that improvement and good a *quid pro quo*.

Thus far admitted, "Egomet" might allow a committeman the pleasure of a silver cup if he can fairly win it. He has to pay the same entry fees, is subject to the same rules and regulations, has had the same chance of trouble and expense to procure, has the same desire to improve, his stock as his fellow amateurs, and is subject to the dictum of the same judge. Then why should he not honestly exhibit? Having paid his entry fees, &c., why should he not have the *quid pro quo*—a fair chance of the prizes? "Oh! Committeemen should be above suspicion," is usually the answer. But should they be suspected? If they are, it must be imagined that our judges are corrupt, conniving at some secret arrangement of awarding the prizes to as corrupt committeemen. If they are not to be trusted in this, are they to be trusted in anything? and the wonder is that the suspicious should trust their property in their hands.

In the spirit of an enthusiastic brother amateur I argue that it is better to allow committeemen to exhibit at their pleasure than for poultry shows to decline, for decline they must and will if this obstructive course be persisted in. Exhibiting committeemen would rather be off than on a committee if they could not show with a fair chance of the prizes. Their pride is their prize fairly won. Supposing it were arranged to "Egomet's" satisfaction, and a committeeman never showed again at his own show, what would be the result? Why, Birmingham, that is strongest in one or two particular breeds, would never show her best birds in those breeds. Bristol Spanish are known the poultry world over, but then you would have to visit some other town to see them, as they could not be shown at a Bristol show. Nearly all the great shows follow suit, and where you would expect the strongest native exhibition you would find little or none. Would this be fair to honest men, saying nothing about the knaves beyond? Watch them, prove them, expose them; after exposure let exhibitors decline to enter again at that show as long as that man is connected with it, and it will tell its own tale and gratify—An Old Committeeman.

I think it will be admitted that, as a rule, the members of a committee are greatly interested in the various varieties of poultry and Pigeons; then why should they, simply because they give their time and interest in promoting an exhibition in their neighbourhood, be debarred from showing, and thus be probably deprived of the pleasure of success, which would doubtless be considered greater at home than abroad? What does it signify to whom the prizes are allotted, provided the best birds win? and it appears to me to be casting a slur upon the judges, who are generally well known to the public, to attempt to insinuate they would be partial in their awards. I am an exhibitor, and certainly care but little to whom the birds belong that win, if they are superior to mine, and think that, whether committeemen or otherwise, they are fairly entitled to the merit and advantages derived from the superiority of their stock.—No Committeeman.

BIRMINGHAM POULTRY SHOW.

We must reserve our reporter's notes until next week, but will now publish a few remarks and statistics with which we have been favoured:—

The reduction in the number of pens exhibited is, doubtless, owing to the additional sixpence, for there was an increase in the number of Pigeons, on which no advance of charge for

exhibiting was made. The following shows the variations in the numbers of the different varieties :—

	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869
Dorking.....	243	269	227	193	265	325	305	331
Spanish.....	59	70	101	60	88	90	103	79
Cochin China ..	179	205	216	227	310	331	312	260
Brahma Pootra..	22	34	43	75	140	192	283	238
Malay.....	15	11	10	13	16	13	11	18
Houdans, Crève-Coeurs, and La Flèche	—	7	10	20	23	58	101	97
Hamburgh.....	188	234	270	225	231	280	253	181
Poland	50	47	43	39	52	47	47	56
Other distinct breeds	31	16	20	22	15	19	20	23
Game.....	328	350	354	348	351	392	482	336
Bantams	121	115	215	215	162	168	208	142
Ducks.....	48	88	105	82	120	107	129	116
Geese.....	20	27	28	30	41	43	47	39
Turkeys.....	24	37	35	37	40	43	64	50
Pigeons	332	275	290	331	400	565	432	482
	1,700	1,780	1,987	2,006	2,297	2,676	2,747	2,453

RECEIPTS.

	1865.	1866.	1867.	1868.	1869.
Monday....	£244 ..	£214 ..	£249 ..	£213 ..	£195
Tuesday....	234 ..	158 ..	249 ..	249 ..	310
	£478	£372	£498	£462	£505

ADMISSIONS—MONDAY.

	1865.	1866.	1867.	1868.	1869.
Subscribers' Tickets....	3,384 ..	4,097 ..	6,000 ..	5,027 ..	4,937
Five shillings each	1,540 ..	1,004 ..	875 ..	731 ..	687
One shilling each.....	— ..	— ..	605 ..	610 ..	475

TUESDAY.

By ticket	1,970 ..	1,566 ..	1,650 ..	1,225 ..	1,640
Paid	4,682 ..	4,163 ..	7,494 ..	8,990 ..	6,200
	6,652	5,729	9,144	10,215	7,840

POULTRY SALES.

1865	234 pens	£915
1866	294 „	1,116
1867	220 „	891
1868	203 „	806
1869	213 „	847

Dorkings still prevail, the birds excellent; and Mrs. Arkwright may be justly proud of the great pre-eminence of her birds. *Cochins*, though fewer in number, and *Brahma Pootras*, were very superior classes. *Malays* are too ungainly ever to prevail, despite increased prizes. The *French varieties* were mostly good, and are evidently ascending to be cultivated as useful and not merely fancy birds. *Spanish*, fewer in number, were never surpassed in excellence. *Hamburghs* of all the varieties were superior. *Polands* were more numerous than usual, and even Mr. Adkins was shorn of some of the honours. In *Game*, Black-breasted Reds, as usual, far outnumbered the other varieties, and the cock exhibited by Mr. C. Challoner cannot be surpassed. *Bantams*, few but good. Aylesbury *Ducks* still are increased in size, but not in excellence of appearance. Mrs. Seamons' first-prize pair of birds weighed 17¾ lbs., last year they weighed 17½ lbs. The second-prize pair, Mrs. Burrell's, weighed 17 lbs. 7 ozs.; and Mr. Fowler's third-prize pair, 17 lbs. 2 ozs. Rouen Ducks were very superior. The first-prize pair weighed 18 lbs. 14 ozs. The first-prize weight last year was 19¼ lbs. The second-prize pair weighed 17 lbs. 12 ozs., against 18¼ lbs. last year.

White *Geese* were very few and rather inferior. The weights were :—Old birds, first prize, 53½ lbs.; second prize, 52 lbs.; birds of 1868, 55 lbs. and 51 lbs.; birds of 1869, 50¼ lbs. and 42 lbs., against 50 lbs. and 40½ lbs. last year. Grey *Geese* were more numerous and better than their White brethren and sisters. Old birds weighed 57½ lbs. and 53½ lbs.; last year, 55 lbs. and 51 lbs.; young birds, 48¾ lbs. and 46½ lbs.; last year, 50 lbs. and 40½ lbs. *Turkeys*, like Geese, are chiefly valuable in proportion to their weight. Heaviest old cock this year 34¾ lbs.; last year 32 lbs.; young cock, 23¾ lbs., last year 24 lbs. Pair of hens, this year 37¾ lbs.; last year 37½ lbs.; poults this year 28 lbs. 2 ozs.; last year 29 lbs.

As usual, the prize pens were offered by auction by Mr. Lythall, the prices realised being—Pen 62, Mrs. Arkwright's Coloured Dorking cockerel, £12; 29, Earl of Chesterfield's Coloured Dorking cockerel, £5 10s.; 73, O. E. Cresswell's Coloured Dorking cockerel, £5; 188, J. Anderson's Coloured Dorking pullets, £4; 212, Lord Bagot's Silver Grey cock, £3 15s.; 219, Lady Bagot's Silver Grey cock, £4; 230, Miss Endall's Silver Grey cock, £5 10s.; 240, Rev. George Gilbert's Silver Grey pullets, £2 12s.; 267, Miss Topp's White Dorking cock, £3; 392, J. Cattell's Cochin-China hens, £10; 499, T. Amies' Cochin-China cockerel, £3 3s.; 555, A. Swindell's White Cochin-China cockerel, £8 15s.; 898, Mrs. Wilkin's Houdan cock, £2; 941, H. Lane's Spanish cock, £10; 1089, H. Beldon's Silver-pencilled Hamburgh cock, £5 15s.; 1153, A. Wood's Silver-spangled cock, £10 1420, E. C. Gilbert's Black-breasted Red Game pullet, £5 15s.; 1485, T. Burgess's Game hen, £5 5s.; 1688, Mrs. Hayne's Black East Indian Ducks, £4; 1895, C. Bamford's Geese, £5 5s.; 1931, Rev. T. L. Fellowes' Turkey cock, £5 15s.; 2075, Mrs. Ladd's Pouter Pigeon, cock, £11; 2270, G. South's Turbits, £6; 2291, G. South's Dragoons, £3 15s.; 2372, S. Taylor's Antwerps, £3. There were a large number of sales in the other classes.

DORKING (Coloured, except Silver-Grey).—*Cocks.*—1, Mrs. Arkwright's Scarsdale, Chesterfield. 2, J. Dewry, Burton-on-Trent. 3, Admiral W. Hornby, Knowsley Cottage, Prescot. 4, J. Martin, Claines, Worcester. *hc*, Admiral W. Hornby; Hon. H. W. Fitzwilliam, M.P., Rotherham; R. Yardley, Marke: Hall, Birmingham. *c*, T. Statter, Whitefield, Manchester.

DORKING (Coloured, except Silver-Grey).—*Cockerels.*—1 and Cup, Mrs. Arkwright. 2, J. Anderson, Meigle, N.B.; 3, Earl of Chesterfield. 4 J. Longland, Northampton. 5, O. E. Cresswell, Hounslow. 6, Miss E. Whittington, Henley-in-Arden. *hc*, L. Patton, Hillmorre, near Taunton; Gunson and Jefferson, Whitehaven; H. Crossley, Halifax; R. Yardley; Rev. E. Cadogan, Warwick; T. Statter; J. White, Northallerton, Yorkshire; S. Ball, Wolverley, Kidderminster; E. Shaw, Oswestry; *c*, L. Patton; Rev. E. Cadogan; J. White; J. Martin, Worcester; O. E. Cresswell.

DORKINGS (Coloured, except Silver-Grey).—*Hens.*—1, J. Fox, St. Bees, Cumberland. 2, L. Patton. 3, R. W. Beachey, Kingskerswell, Devon. 4, W. W. Ruttlidge, Shortend, near Kendal. 5, J. H. Wilson, St. Bees, Whitehaven. *hc*, D. C. Campbell, M.D., Brentwood, Essex; C. Morris, Grassendale, Liverpool; Mrs. Arkwright. *c* J. Anderson; Gunson and Jefferson; L. Patton; J. Fox.

DORKINGS (Coloured, except Silver-Gray).—*Pullets.*—1 and Cup, H. Crossley; 2 and 5, Mrs. Arkwright. 3, T. Statter. 4, R. W. Beachey. 6, J. Anderson. *hc*, Rev. A. K. Cornwall, Rencombe; J. H. Wilson; J. Anderson; F. Parlett, Chelmsford; L. Patton. *c*, Gunson & Jefferson; J. Martin; Mrs. Hurt; W. W. Ruttlidge; J. Drewry; F. Parlett.

DORKINGS (Silver-Grey).—*Cocks.*—1, T. Raines, Stirling. 2 and 4, Lady Bagot, Rugeley. 3, R. Smalley, Lancaster. 5, Lord Bagot. *hc*, Lord Bagot; R. Smaller; J. Horton, Shirley. *c*, R. D. Holt, Windermere; H. Yardley; R. Smalley.

DORKINGS (Silver-Grey).—*Hens or Pullets.*—1, R. D. Holt. 2, Countess of Dartmouth. 3, Rev. G. Gilbert, Norwich; Rev. J. F. Newton, Kirby-le-Cleveland, Yorkshire. *hc*, R. D. Holt.

DORKINGS (White).—*Cocks.*—1, J. Choyce, Atherstone. 2, Rev. F. Tearle, Newmarket. 3, Lord Sudeley. *hc*, J. Robinson, Garstang; Mrs. Hartwell, Bridgwater. *c*, Countess of Dartmouth; Rev. F. Tearle.

DORKINGS (White).—*Hens or Pullets.*—1 and 3, J. Robinson. 2, Mrs. Syson, Empingham. *hc*, Rev. F. Tearle; J. Choyce; J. Robinson. *c*, Rev. F. Tearle: Mrs. Syson; J. Robinson,

COCHIN-CHINA (Cinnamon and Buff).—*Cocks.*—1 and Cup, W. A. Taylor, Manchester. 2, F. W. Zurhorst, Dublin. 3, R. Yardley. 4, and 5, J. H. Dawes, Moseley Hall, Birmingham. 6, H. Mapplebeck, Woodfield, Moseley. *hc*, H. Mapplebeck. *c*, H. Partridge, Edgbaston.

COCHIN-CHINA (Cinnamon and Buff).—*Cockerels.*—1 and Cup, W. Sanday, Ratcliffe, Notts. 2, J. Cattell, Bristol Road, Birmingham. 3, Capt. H. Heaton, Eccles. 4 and 6, W. A. Taylor. 5, Mrs. Wilkin, Carnforth, Cumberland. *hc*, W. A. Taylor; C. Sidgwick, Keighley; Gunson & Jefferson; J. H. Dawes.

COCHIN-CHINA (Cinnamon and Buff).—*Hens.*—1 and Cup, W. A. Taylor. 2 and 3, J. Cattell. 4 and 5, C. Felton, Edgbaston. *hc*, J. N. Beasley, Northampton; H. Lingwood, Suffolk; H. Mapplebeck. *c*, J. Cattell; W. Sanday.

COCHIN-CHINA (Cinnamon and Buff).—*Pullets.*—1 and Cup, J. Cattell. 2, Capt. H. Heaton. 3, J. H. Dawes. 4, H. Mapplebeck. 5, Mrs. Woodcock, Leicester. 6, G. H. Proctor, Durham. *hc*, W. A. Taylor; J. H. Dawes; D. Young, Leamington; J. Sichel, Tinnoerley; Gunson & Jefferson; Bowman & Fearon, Whitehaven; J. Cattell. *c*, Mrs. Woodcock; H. Tomlinson; Rev. G. Gilbert.

COCHIN-CHINA (Brown and Partridge-feathered).—*Cocks.*—1, R. White, Sheffield. 2, T. Stretch, Ormskirk. 3, W. A. Taylor. *hc*, E. Tudman, Salop.

COCHIN-CHINA (Brown and Partridge-feathered).—*Cockerels.*—1, T. Amies, Peterborough. 2, W. A. Taylor. 3 and 4, E. Tudman. *hc*, T. Stretch; G. Lamb, Compton, Wolverhampton.

COCHIN-CHINA (Brown and Partridge-feathered).—*Hens.*—1, W. A. Taylor. 2, R. B. Wood. *hc*, G. Lamb.

COCHIN-CHINA (Brown and Partridge-feathered).—*Pullets.*—1, E. Tudman. 2, W. A. Taylor. 3, F. T. Hillyard, Southam. 4, H. Crossley. *hc*, Rev. J. Gandy. *c*, Miss Story.

COCHIN-CHINA (White).—*Cocks.*—1 A. G. Worthington, Burton-on-Trent. 2, R. Smalley. 3, Col. J. A. Ewart, Burton-on-Trent.

COCHIN-CHINA (White).—*Cockerels.*—1 and 3, A. J. E. Swindell, Kinver, Stourbridge. 2, Bowman & Fearon. *hc*, Miss Hales, Canterbury; Mrs. Williamson, Leicester.

COCHIN-CHINA (White).—*Hens.*—1, R. Smalley. 2, R. Chase, Wylde Green, Birmingham. 3, Mrs. A. Ford, Dalkeith, N.B. *hc*, R. Smalley.

COCHIN-CHINA (White).—*Pullets.*—1 and 2, Mrs. Williamson. 3, R. Chase. *hc*, J. Shorthose, Newcastle-on-Tyne; A. J. E. Swindell.

BRAHMA-POOTRA (Dark).—*Cocks.*—1, Mrs. Hurt. 2, J. H. Dawes. 3, Mrs. Burrell, Ipswich. *hc*, Rev. J. F. Newton; W. Gamon, Chester; Mrs. Hurt; H. B. Morrell, Clyro. *c*, G. F. Whitehouse, King's Heath; J. Sichel; H. Lacy, Hebden Bridge.

BRAHMA-POOTRA (Dark).—*Cockerels.*—1 and Cup, Rev. J. Bowen, Talgarth. 2, Mrs. Hurt. 3, H. Lacy. 4, R. W. Boyle, Blackrock, Dublin. 5, Rev. E. Alder. 6, L. Wright, Bristol. *hc*, Mrs. Woodcock; Rev. E. Alder; L. Wright; Lieut.-Col. H. B. Lane, Bracknell; J. Anderson; H. P. Morrell; J. A. Dempster, Stirling. *c*, Mrs. Hurt; D. C. Campbell, M.D.; W. Harvey, Sheffield; J. Anderson; W. B. Etches, Salop; W. Whittaker, Belper; Miss Woodcock; Hon. Mrs. A. B. Hamilton, Woburn.

BRAHMA-POOTRA (Dark).—*Hens.*—1, H. Lingwood. 2, R. W. Boyle. 3, Rev. J. Bowen. *hc*, H. Savile, Ollerton; Hon. Miss Douglas Pennant, Bangor; Mrs. Hurt; H. Lacy; J. Heap.

BRAHMA-POOTRA (Dark).—*Pullets.*—1 and Cup, Mrs. Hurt. 2, Mrs. Burrell 3, Rev. E. Alder. 4, J. Bowen. 5, G. F. Whitehouse. 6, R. W. Boyle. *hc*, Rev. J. Bowen; J. Shorthose; J. Stewart, Helensburgh; Rev. E. Alder; L. Wright; Mrs. Hurt; J. Anderson. *c*, Rev. E. Alder; Miss Douglas Pennant; H. B. Morrell; J. Anderson; Mrs. Hurst; W. Wykes.

BRAHMA-POOTRA (Light).—*Cocks.*—1, H. Lacy. 2, J. Pares, Guildford. 3, H. Dowsett, Chelmsford.

BRAHMA-POOTRA (Light).—*Cockerels.*—1 and 2, Mrs. Williamson. 3, J.

Pares. 4, Mrs. Southard. *hc*, Hon. Mrs. Devereux, Oxford. *c*, H. Dowsett; T. A. Dean, Moreton-on-Lugg, Hereford; J. Pares.

BRAHMA-POOTRA (Light).—*Hens.*—1, F. Crook, Forest Hill. 2, H. Dowsett. 3, J. Pares. *hc*, A. Herbert; H. Lacy.

BRAHMA-POOTRA (Light) —*Pullets.*—1 and 4, Mrs. Williamson. 2, F. Crook. 3, H. Dowsett. *hc*, J. Pares; Hon. Mrs. Devereux; H. Lacy. *c*, Miss Hales; F. Crook; M. Leno, Dunstable.

MALAY.—*Cocks.*—1, Rev. A. G. Brooke, Ruyton-XI-Towns. 2, T. Hollis, Reading. *hc*, A. D. Payne.

MALAY.—*Cockerels.*—1, A. D. Payne. 2, Withheld.

MALAY.—*Hens.*—1, J. Shorthose. 2, T. Hollis. *hc*, J. Shorthose; Rev. A. G. Brooke. *c*, A. D. Payne.

MALAY.—*Pullets.*—1, J. Hinton, Warminster. 2, Withheld.

CRÈVE-CŒUR.—*Cocks.*—1, W. R. Park, Melrose. 2, F. W. Zurhorst. 3, W. Blinkhorn, St. Helen's. *hc*, Mrs. Seamons, Aylesbury; Capt. Wetherall, Kettering; Hon. W. H. Fitzwilliam, M.P., Rotherham; F. W. Zurhorst; Miss Wilkin. *c*, Hon. W. H. Fitzwilliam, M.P.

CRÈVE-CŒUR.—*Hens or Pullets.*—1, W. R. Park. 2, R. B. Wood, Uttoxeter. 3, J. K. Fowler, Aylesbury. *hc*, Capt. Wetherall; J. J. Malden, Biggleswade; W. Blinkhorn. *c*, Mrs. Seamons.

HOUDANS.—*Cocks.*—1, W. O. Quibell, Newark. 2, R. B. Wood. 3, Mrs. Wilkin. *hc*, J. Drewry; C. Homfray, Newport; Colonel Archibald Impey, Cheltenham; T. Fox, Lincoln; Hills & Co., Brighton. *c*, Mrs. Blay, Worcester; W. O. Quibell; T. Fox.

HOUDANS.—*Hens or Pullets.*—1 and 3, C. Morris. 2, W. O. Quibell. *hc*, Rev. C. B. Rowland, Warwick; J. Drewry. *c*, W. O. Quibell; T. Fox.

LA FLÈCHE.—*Cocks.*—1 and 2, Hon. C. W. Fitzwilliam, Rotherham. *Hens or Pullets.*—1 and 2, Hon. C. W. Fitzwilliam.

SPANISH.—*Cocks.*—1, H. Lane. 2, W. R. Bull, Newport Pagnell. 3, H. Lesk, Holbrooke Hall, Derby. *hc*, Mrs. Hyde, Bristol; H. Lane; H. Beldon, Bingley.

SPANISH.—*Cockerels.*—1 and Cup, H. Lane. 2, P. H. Jones, Fulham, London. 3, F. & C. Haworth, Haslingden. 4, Mrs. Hyde. 5, R. Teebay, Fulwood, Preston. 6, H. Beldon. *hc*, Hon. Miss Douglas Pennant; Miss Brown, Chardleigh Green. Chard; W. R. Bull; R. Teebay; J. Walker, Wolverhampton; T. J. Harrison, Kendal; W. Paterson, Langholm; J. F. Dixon, Nottingham; H. Lane.

SPANISH.—*Hens.*—1, Hon. Miss Douglas Pennant. 2, C. W. Brierley, Middleton. 3, H. Beldon. *hc*, T. & E. Comber, Warrington; H. Lane.

SPANISH.—*Pullets.*—1, Mrs. Hyde. 2, H. Lane. 3, R. Teebay. 4, Hon. Miss Douglas Pennant. *hc*, Hon. Miss Douglas Pennant; J. Walker; W. R. Bull; R. Teebay; Burch & Boulter, Sheffield. *c*, T. & E. Comber.

HAMBURGHS (Black).—*Cock.*—1, Mason & Walker, Denton, near Manchester. 2 and 3, Rev. W. Serjeantson, Shrewsbury. *hc*, J. M. Kilvert, Salop. *c*, W. Whittaker.

HAMBURGHS (Black).—*Hens or Pullets.*—1, Rev. W. Serjeanteon. 2, C. Sidgwick. 3, Mason & Walker. *hc*, S. Butterfield, Keighley; J. Watts, King's Heath; G. Lingard, jun., Snow Hill, Birmingham; Rev. W. Serjeantson.

HAMBURGHS (Golden-pencilled). — *Cock.* — 1, W. Whittaker. 2, H. Pickles, jun. 3, J. Laming. *hc*, W. R. Park; H. Beldon; W. Parr.

HAMBURGHS (Golden-pencilled).—*Hens or Pullets.*—1, H. Beldon. 2, W. Parr. 3, Gunson & Jefferson. *c*, Burch & Boulter; W. Parr.

HAMBURGHS (Silver-pencilled).—*Cock.*—1, H. Beldon. 2, J. Laming, Spalding. 3, Duke of Sutherland. 4, H. Pickles, jun.

HAMBURGHS (Silver-pencilled).—*Hens or Pullets.*—1, Duke of Sutherland. 2, A. Woods, Sefton, near Liverpool. 2, H. Beldon. *hc*, A. Woods.

HAMBURGHS (Golden-spangled).—1, W. A. Hyde. 2, J. Ogden, Hollinwood, near Manchester. 3, Miss C. E. Palmer. 4, H. Beldon. 5, W. A. Hyde. 6, E. Brierley, Haywood, near Manchester.

HAMBURGHS (Golden-spangled).—*Hens or Pullets.*—1 and 3, W. A. Hyde. 2, J. Ogden. 4, Mason & Walker. *hc*, A. Woods; E. Brierley; J. Ogden; J. Davies, Harborne.

HAMBURGHS (Silver-spangled).—*Cock.*—1 and 4, H. Pickles, jun. 2, H. Beldon. 3, Ashton & Booth. 5, A. Woods. 6, Ashton & Booth.

HAMBURGHS (Silver-spangled).—*Hens or Pullets.*—1, Miss E. Browne. 2, J. Fielding, Newchurch, near Manchester. 3, Ashton & Booth. 4, H. Beldon. 5, H. Pickles, jun. *hc*, Rev. F. Tearle; Miss E. Browne; F. H. Nevill, Edgbaston; E. M. Wakeman, Bridgnorth. *c*, G. E. Hardman, Rawtenstall, near Manchester; J. Fielding.

POLISH (Black with White Crests).—*Cock.*—1, S. Shaw, Halifax. 2, W. Gamon. *hc*, W. Gamon.

POLISH (Black with White Crests) —*Hens or Pullets.*—1, S. Shaw. 2, W. Gamon. *hc*, D. Mutton, Brighton; W. Gamon.

POLISH (Golden).—*Cock.*—1, M. Nicholls, Isle of Man. 2, H. Beldon. *hc*, W. K. Patrick, Lynn; H. Beldon.

POLISH (Golden).—*Hens or Pullets.*—1, W. Harvey. 2, H. Beldon. *hc*, W. Silvester, Sheffield.

POLISH (Silver).—*Cock.*—1, G. C. Adkins, The Lightwoods, near Birmingham. 2, W. Gamon. 3, Mrs. Procter. *hc*, W. Gamon; H. Beldon; W. Silvester; G. C. Adkins. *c*, Mrs. Blay; G. C. Adkins.

POLISH (Silver).—*Hens or Pullets.*—1 and 2, G. C. Adkins. *hc*, P. H. Jones; W. Gamon; G. C. Adkins.

ANY OTHER VARIETY.—1, C. F. Montresser, Slough, Bucks. 2, Mrs. Burrell; 3, Mrs. Blay. *hc*, Miss Hales; W. A. Burnell; J. K. Fowler; J. Choyce; J. Fawdry, Sutton Coldfield; S. Shaw. *c*, R. Chase.

GAME (Black-breasted Reds).—*Cock.*—1, C. Chaloner, Chesterfield. 2, J. Fletcher, Stoneclough, near Manchester. 3, J. Holland, Manchester. 4, C. Chaloner. *hc*, G. Newdegate, Shiffnal; J. Halsall, Ince, near Wigan; J. Mason, Worcester; S. Mathew, Stowmarket, Suffolk. *c*, W. Bradley, Worcester; J. Stubbs, Stafford; J. Eaton, Southwell, Notts.

GAME (Black-breasted Reds).—*Cockerel.*—1 and Cup, C. Chaloner. 2, Capt. G. Price, Taunton. 3, F. Sales, Crowle, Doncaster. 4, 5, and 6, Rev. T. O'Grady. *hc*, J. W. Thompson, Sonthowram, Halifax; J. Frith, Chatsworth, Bakewell; J. Fletcher. *c*, T. Mason, Lancaster; J. Halsall.

GAME (Black-breasted Reds).—*Hen.*—1, C. Chaloner. 2, H. Beldon. 3, W. Dunning, Newport, Salop.

GAME (Black-breasted Reds).—*Pullets.*—1 and Cup, E. C. Gilbert, Penkridge. 2, S. Matthew. 3, C. Chaloner. 4, G. E. Peach, Wellington, Salop. 5, J. H. Wilson. 6, S. Mathews. *hc*, W. Bradley; P. A. Beck, Welshpool; E. C. Gilbert; J. Stubbs.

GAME (Brown and other Reds except Black-breasted).—*Cock.*—1, J. Wood, Wigan. 2, T. Statter. 3, G. R. Smith, Scarborough. 4, F. Sales, Doncaster. 5, R. Swift, Southwell, Notts.

GAME (Brown and other Reds except Black-breasted).—*Cockerel.*—1, J. Wood. 2, E. Mann, Whtiefield, near Manchester. 3, Rev. F. Watson, Kelvedon, Essex. 4, T. Burgess, Whitchurch, Salop. 5, T. Statter. 6, Rev. F. Watson.

GAME (Brown and other Reds, except Black-breasted).—*Hens.*—1, T. Burgess. 2, C. W. Brierley. 3, C. Homfray. 4, J. Wood.

GAME (Brown and other Reds except Black-breasted).—*Pullets.*—1, S. Matthews. 2, W. Boulton, Dalton-in-Furness. 3, C. W. Brierley. 4, Miss E. Crawford, Southwell, Notts. 5, J. Wood. *hc*, G. R. Smith.

GAME (Duckwings and other Greys and Blues).—*Cocks.*—1, S. Matthews. 2, C. W. Brierley. 3, C. Chaloner. 4, W. Dunning.

GAME (Duckwings and other Greys and Blues). — *Cockerels.* — 1, C Chaloner. 2, Col. W. Blackburne, Leamington. 3, S. Matthew. 4, C. Chaloner. 5, W. Dunning.

GAME (Duckwings and other Greys and Blues).—*Hens.*—1, F. Watson. 2, W. Bradley.

GAME (Duckwings and other Greys and Blues).—*Pullets.*—1, H. C. Parkes, Quadrant, Birmingham. 2, H. C. & W. J. Mason, Drighlington, near Leeds. 3, H. Beldon. *hc*, Miss J. Cooper; J. Mitchell, Moseley.

GAME (Black and Brassywinged, except Greys).—*Cock.*—1 and 2, R. Robbins, Kenilworth. 3, Capt. W. G. Webb, Tamworth.

GAME (Black and Brassywinged except Greys).—*Hens or Pullets.*—1 and 2, Capt. W. G. Webb. 3, Rev. G. S. Cruwys, Tiverton.

GAME (White and Piles).—*Cock.*—1 and 2, Rev. F. Watson. 3, J. W. Thompson.

GAME (White and Piles).—*Hens or Pullets.*—1, Rev. F. Watson. 2, H. C. & W. J. Mason. 3, J. Sichel. *hc*, Rev. F. Watson; W. Johnson, Stanley, near Liverpool. *c*, Rev. F. Watson.

BANTAMS (Gold-laced).—1, T. C. Harrison, Hull. 2, Rev. G. S. Cruwys. *hc* and *c*, M. Leno.

BANTAMS (Silver-laced).—1 and 2, M. Leno. *hc*, Rev. G. S. Cruwys. *c*, T. C. Harrison.

BANTAMS (White Clean-legged).—1, Rev. F. Tearle. 2 and *c*, E. Prichard.

BANTAMS (Black Clean-legged).—1 and 4, H. Draycott, Humberstone, near Leicester. 2, R. B. Riley, Halifax. 3, M. E. Cambridge, Bristol. *hc*, T. C. Harrison. *c*, W. A. Taylor.

BANTAMS (Any other variety except Game). — 1, Hon. C. E. Finch, Coventry. 2, Mrs. Woodcock. *hc*, J. Beasley, Northampton; H. Savile. *c*, J. Watts.

GAME BANTAMS (Black breasted Reds).—1 and Cup, J. Crossland, jun., Wakefield. 2, W. B. Jeffries, Ipswich. 3, G. Smith, Staveley, near Chesterfield. 4, H. Shumach, Southwell. 5, R. Brownlie, Kirkcaldy. *hc*, Rev. A. K. Cornwall; J. Adkins, jun., Walsall; W. Hinchlieff, Southwell; W. F. Entwisle. *c*, H. Ashton; T. Sharples, Rawtenstall.

GAME BANTAMS (Brown and other Reds except Black-breasted).—1, Miss Crawford. 2, H. Shumach.

GAME BANTAMS (Any other variety).—1 and 3, H. Shumach. 2, J. Crosland, jun.

GAME BANTAMS (Black-breasted and other Reds).—*Cocks.*—1 and 4, W. Hinchlieff. 2, J. W. Morris, Rochdale. 3, J. Anderson. 5, T. Sharples. *hc*, H. Shumach; Bowman & Fearon. *c*, Capt. Wetherall.

GAME BANTAMS (Any other variety).—*Cocks* —1, Miss Crawford. 2, T. P. Wood, jun., Boythorpe House, near Chesterfield. 3, W. B. Etches.

DUCKS (White Aylesbury).—1 and 4, Mrs. Seamons. 2, Mrs. Burrell. 3, J. K. Fowler. *hc*, Mrs. Seamons; H. Jones; J. K. Fowler. *c*, Countess of Dartmouth; H. Jones; Mrs. Burrell.

DUCKS (Rouen).—1, Cup, and 4, T. Statter. 2, A. Dickinson, Whitehaven. 3, J. Anderson. 5, S. Shaw. 6, L. Patton. *hc*, L. Patton; F. Parlett, Chelmsford; J. Anderson; S. H. Stott, Rochdale; J. K. Fowler; Gunson & Jefferson; C. Butler, Castle Bromwich; J. Fox. *c*, F. W. Zurhorst; J. Anderson.

DUCKS (Black East Indian).—1 and 3, Mrs. Hayne, Dorchester. 2, S. Burn, Whitby, Yorkshire. *hc*, Major F. D. L. Smith, Hales Owen; J. M. Kilvert. *c*, Rev. W. Serjeantson; Miss Clifton, Whittington, Worcester; S. Burn.

DUCKS (Any other variety).—1, S. Burn. 2, H. Mapplebeck. *hc*, H. Savile; T. C. Harrison; M. Leno; C. Homfray. *c*, Rev. W. Sergeantson.

GEESE (White).—1, Rev. G. Hustler. 2, Mrs. Seamons. *hc*, T. Statter; C. Bamford, Impington Hall, near Cambridge. *Goslings*, — 1, Mrs. Seamons, Aylesbury. 2, S. H. Stott. *hc*, Rev. G. Hustler, Stillingfleet Vicarage, York; Mrs. Seamons; J. Lycett, Stafford.

GEESE (Grey and Mottled).—1, C. Bamford. 2, J. K. Fowler. *hc*, Rev. G. Hustler; J. Lycett; H. Crossley; W. Lort, King's Norton, near Birmingham. *c*, Right Hon. Lord Wenlock, Yorkshire. *Goslings.*—1, Mrs. Seamons. 2, J. K. Fowler. *hc*, Rev. G. Hustler; S. H. Stott; J. Lycett. *c*, Lord Wenlock; W. Cox, Brailsford Hall, Derby.

TURKEYS.—'Old birds).—*Cocks.*—1, F. Lythall, Banbury. 2, T. J. Harrison, Kendal, Westmoreland. *hc*, Hon. Mrs. Colvile, Lullington, Burton-on-Trent; Rev. N. J. Ridley, Newbury; C. Bamford; Mrs. Guy, Eaton, Grantham; J. Fox, Cumberland; W. Sanday, Ratcliffe; W. Winterton, Hinckley; L. Patton. *c*, Rev H. G. Baily, Swindon; J. Fox. *Hens.*—1, W. Sanday. 2, F. Lythall. *hc*, Mrs. Guy, Eaton, Grantham; W. Winterton. *c*, L. Patton; Rev. H. G. Baily.

TURKEYS (Young Birds).—*Cocks.*—1, L. Patton. 2, Rev. T. Fellowes, Honningham, Norwich. *hc*, Mrs. Guy; F. Lythall; W. Wilkes, Wolvey; Hinckley, Leicestershire; Rev. G. Oilbert, Claxton, Norwich; W. Sanday; L. Patton. *Hens*—1, S. H. Stott. 2, L. Patton. *hc*, Rev. T. L. Fellowes, Mrs. Guy; W. Winterton; L. Patton. *c*, F. Lythall.

PIGEONS.

TUMBLERS (Almond).—1 and 3, R. Fulton, Deptford, London. 2, J. Ford, London.

CARRIER (Black). — *Cocks.* — 1, E. Horner, Harewood, Leeds. 2, T. Colley, Sheffield. *hc*, J. Thompson, Bingley, Yorkshire. *c*, F. Crossley, South House, Elland, Yorkshire; R. Fulton. *Hens.*—1 and 2, R. Fulton. *hc*, J. C. Ord, Pimlico, London; F. Crossley.

CARRIER (Dun).—*Cocks.*—1, J. Hawley, Bingley, Yorkshire. 2, J. C. Ord. *hc*, F. Crossley. *Hens.*—1, J. Hawley. 2, F. Crossley. *vhc*, J. Thompson.

CARRIER (Any other colour).—*Cocks.*—1, R. Fulton. *hc*, J. C. Ord. *Hens.*—1, H. A. Yardley, Edgbaston, Birmingham. *c*, J. C. Ord.

POUTER (Red).—*Cocks.*—1, P. H. Jones, Fulham, London. 2, R. Fulton. *c*, J. Barber, Kettering. *Hens.*—1, F. Gresham, Shefford, Beds. 2, G. Sturgess, Leicester. *c*, A. H. Stewart, Birmingham.

POUTER (Blue).—*Cocks.*—1 and Cup, E. Horner. 2, F. Gresham. *hc*, R. Fulton; W. Gamon, Chester. *Hens.*—1 and *hc*, R. Fulton. 2, F. Gresham.

POUTER (Black).—*Cocks.*—1, F. Gresham. 2, A. H. Stewart. *hc*, R. Fulton. *Hens.*—1, A. H. Stewart. 2, R. Fulton.

POUTER (White).—*Cocks.*—1, Mrs. Ladd, Calne, Wilts. 2, W. Harvey,

Sheffield. *hc*, G. Sturgess; R. Fulton. *Hens.*—1, R. Fulton. 2, W. R. Rose, Brausley Hall, near Kettering. *hc*, G. Sturgess; R. Fulton.

Pouter (Any other colour).—*Cocks.*—1, W. R. Rose. 2, R. Fulton. *Hens*—1, W. R. Rose. 2, R. Fulton. *hc*, A. H. Stewart.

Balds or Beards.—1, R. Fulton. 2, W. H. C. Oates, Beathorpe, Newark. 3, G. South, London. *hc*, W. Cheyce, Sibson, near Atherstone, Warwickshire; G. South. *c*, W Cheyce.

Tumblers (Short-faced).—1, J. Fielding, jun., Lark Mills House, Rochdale. 2 and *hc*, R. Fulton. *vhc*, F. Crossley. *c*, J. Ford, London.

Tumblers (Any other variety).—1 and *hc*, J. Hawley. 2, E. Horner.

Runts.—1, Cup, and 2, T. D. Green, Saffron Walden, Essex.

Jacobins (Red or Yellow).—1 and 2, J. Williams, Manchester. *hc*, R. Fulton; E. E. M. Royds, Greenhill, Rochdale; S. Shaw, Stainland, Halifax; O. South.

Jacobins (Any other colour).—1 and *hc*, E. E. M. Royds. 2, J. Williams.

Fantails (White).—1 and 2, C. Bulpin, Riverside, Bridgwater, Somerset. 3, H. Yardley. *hc*, J. J. Bradley, Birmingham; T. C. & E. Newbitt, Epworth, Lincolnshire; C. Bulpin.

Fantails (Any other colour).—1, F. Graham, South Birkenhead. 2, W. Cheyce, Sibson, near Atherstone. *hc*, H. Yardley.

Trumpeters (Mottled).—1, S. Shaw, Stainland, Halifax. 2, W. Harvey. *hc*, J. Firth, jun., Dewsbury. *c*, S. A. Taylor, Four Oaks, Sutton Coldfield.

Trumpeters (Any other colour).—1, J. Firth, jun. 2, W. H. C. Oates. *hc*, W. Gamoo, Hoole Cottage, Chester.

Owls (Foreign).—1, F. Crossley. 2, J. Fielding, jun. *hc*, S. Shaw.

Owls (English).—1, J. Edge, Birmingham. 2, C. Bulpin. *hc*, Rev. F. Watson; C. Bulpin. *c*, J. Firth, jun.

Nuns.—1 and 3, W. Baukes, Runcorn, Cheshire, 2, C. Bulpin. *hc*, W. Croft, Killinghall, Ripley, Yorkshire. *c*, P. H. Jones.

Turbits (Red and Yellow).—1 and *hc*, S. Shaw. 2, E. Horner.

Turbits (Any other colour).—1, G. South. 2, W. Baukes. *hc*, J. Fielding, jun.; H. Yardley.

Barbs (Black).—1, R. Fulton. 2, S. Shaw. *vhc*, F. Crossley.

Barbs (Any other colour).—1 and 2 F. Crossley. *vhc*, J. Firth, jun.

Dragoons (Blue).—1, G. South. 2, J. Percivall, Peckham, London. *vhc*, F. Sale, Derby. *hc*, H. Yardley; J. Percivall. *c*, H. Yardley.

Dragoons (Red or Yellow).—1, G. South. 2, P. H. Jones. *hc*, J. Thompson.

Dragoons (Any other colour).—1, J. Percivall. 2, J. Edge. *hc*, W. Underwood, Birmingham. *c*, F. Sale.

Magpies—1, P. H. Jones. 2, J. Firth, jun. *hc*, E. Horner.

Antwerps (Chequered).—1, J. W Ludlow, Birmingham. 2, C. Bulpin.

Antwerps (Any other colour).—1, S. A. Taylor. 2, J. J. Bradley.

Archangels.—1, C. Bulpin. 2, F. Sale. *hc*, W. Underwood.

Swallows.—1, E. Horner. 2, J. Watts, King's Heath, near Birmingham.

Any other New or Distinct Variety.—1, H. Yardley. Extra 1, G. Sturgess, Leicester. 2, F. H. Paget, Birstall, Leicester. Extra 2, W. B. Tegetmeier, Finchley, London. 3, F. H. Paget. Extra 3, H. Draycott, Humberstone, near Leicester.

Judges.—*Poultry:* Rev. G. F. Hodgson, North Petherton, Bridgwater; Mr. G. J. Andrews, Dorchester; Mr. John Baily, Mount Street, Grosvenor Square, London; Mr. James Dixon, North Park, Clayton, Bradford; Mr. E. Hewitt, Sparkbrook, Birmingham; Mr. R. Teebay, Fulwood, near Preston; Mr. J. H. Smith, Skelton Grange, York; Mr. R. Woods, Osberton, Worksop; Mr. E. Lowe, Comberford, Tamworth. *Pigeons:* Mr. Harrison Weir, 9, Lyndhurst Road, Peckham, London; Mr. T. J. Cottle, Pulteney Villa, Cheltenham; Mr. F. Esquilant, 4, Effra Road, Brixton, London; Mr. T. Ridpeth, Outwood Hall, Handforth, Manchester.

OAKHAM POULTRY AND PIGEON SHOW.

This meeting, held on the 24th and 25th of November, proved an unusually successful one, not a single hitch of any kind occurring, and the promptitude of action on the part of the Committee was itself perfection. The whole of the poultry, as well as the Pigeons, were contained in an excellent tent 200 feet long by 40 feet wide, an abundance of gas being laid on; and every attention was paid to the feeding, &c., of the birds.

Of Grey *Dorkings* the classes were exceedingly large, the silver cup for the best pen of this breed being awarded to a first-class pair of hens belonging to Mr. George Clarke, of Long Sutton. The silver cup for the best pen of a multiplicity of different breeds, to be entered expressly for the prize, which was given by the Earl of Gainsborough, was taken by a splendid pen of Brown Reds in a most spirited competition, Mrs. Fludyer, of Ayston Hall, being the winner. There were some very good Black *Spanish* shown, though the bulk of them were scarcely in full plumage. The winners of the silver cup, it seems, were entered in the catalogue at the low price of 30*s.*, being quite a novelty for good birds in these days. *Cochins* were exceedingly good. Mr. Taylor, of Manchester, was the principal winner. As regards *Game*, the pens shown by Mr. Mathews, of Stowmarket, had almost their own way. Mr. Jeffries, of Ipswich, was equally successful with Game *Bantams*. Mrs. Seamons, of Aylesbury, took both the silver cups for *Geese* and *Ducks* with uncommonly good birds, and in heavy classes. *Hamburghs* were in great force, and the cup went to a pen of Golden-spangled. A great variety of cross-bred fowls were shown in the class devoted to them. The produce of Light Brahmas with Grey Dorkings proved the best in all instances for table purposes. A cup was also given in the Selling class, and the Partridge Cochins were successful, the second prize going to Spanish.

The *Pigeons* consisted of large and excellent classes, but many of the best pens, detained at Peterborough, arrived long after the awards were completed—in fact, after nightfall had set in. Many fowls, also, were thrown out from being too late.

The arrangements of the Oakham Committee were for Mr. Joseph Hindson, of Liv and Mr. Hewitt, of Birmingham, to act as Judges; but unfortunately at the last moment a telegram announced the severe indisposition of Mr. Hindson, and consequently the whole of the duty devolved on Mr. Edward Hewitt.

Dorkings.—*hc*, G. H. Finch, M.P., Oakham. *c*, Mrs. W. Fryer, Uppingham; — Fowler, Willingham; C. Speed, Oakham.

Dorkings (Coloured).—*Cock.*—1, N. Savile, Rufford Abbey, Ollerton, Nottingham. 2, H. Warner, Loughborough. *hc*, R. Wood, Clapton, Thrapstone; J. Longland, Grendon, Northampton; D. C. Campbell, M.D. County Asylum, Brentwood, Essex; Marchioness of Exeter, Burghley House; H. Warner; J. Hornsby, Grantham; J. M. Wellington, Oakham. *c*, H. Yardley, Market Hall, Birmingham. *Hens or Pullets.*—1, Cup, and *c*, G. Clarke, Long Sutton. 2, R. Wood, Clapton, Thrapstone. *hc*, R. Wood; N. Savile; J. Hornsby, Castlegate House, Grantham; Mrs. Brackenbury, Thorpe Hall Farm, Downham, Norfolk; D. C. Campbell, M.D. *c*, O. Clarke.

Dorkings (Silver-Grey).—*Hens or Pullets*—1, Marchioness of Exeter. 2, W. Fowler, Manton, Uppingham. *hc*, D. C. Campbell, M.D.

Dorkings (White).—*Cock.*—1, Marchioness of Exeter. 2, O. E. Cresswell, Hanworth Rectory, Hounslow. *hc*, Mrs. Syson, Empingham, Stamford. *c*, Mrs. Syson; Marchioness of Exeter. *Hens or Pullets.*—1 and 2, Mrs. Syson. *hc*, Mrs. Syson; Marchioness of Exeter.

Spanish (Black).—1 and Cup, J. Stephens, Walsall. 2, Miss Collingwood, Peterborough. *hc*, G. Saunders, Melton Mowbray. *Chickens.*—1, F. James, Peckham. 2, J. Laming, Cowburn, Spalding. *hc*, W. R. Boll, Newport Pagnell; J. Stephens, Walsall. *c*, J. D. Hustwayte, Nottingham.

Cochin-China (Cinnamon, Buff, or Partridge).—*Cock.*—1, W. A. Taylor, Manchester. 2, H. V. Story, Lockington Hall, Derby. *hc*, J. Longland, Grendon; R. W. Smith, March; H. Lingwood, Needham Market; J. Stephens; T. H. Readman, Whitby. *c*, H. V. Story; J. Longland; — Godfrey, Hammersmith; J. Barber, Kettering; W. A. Taylor. *Hens or Pullets.*—1, Cup, and 2, W. A. Taylor. *hc*, H. V. Story; T. H. Derry, Gedney. Wisbeach. *c*, G. H. Finch, M.P.; Mrs. Woodcock, Rearsby House, Leicester; J. Stephens.

Cochin-China (Black or White).—*Cock.*—1 and 2, Mrs. Williamson. Queniborough Hall, Leicester. *hc*, H. J. Godfrey; Mrs. Williamson. *Hens or Pullets.*—1, Mrs. Williamson. 2, H. H. Eletsoe, Barowell, Oundle. *hc*, M. Kew, Market Overton, Oakham.

Brahma Pootra.—*Cock.*—1, Mrs. Woodcock. 2, Mrs. Williamson. *hc*, H. Lingwood, Needham Market, Suffolk. *c*, Mrs. Burrell, Stoke Park, Ipswich. *Hens or Pullets.*—1, Mrs. Woodcock. 2, H. Lingwood.

Hamburgh (Silver-spangled).—1, J. Laming. 2, A. Fairbourn, Todmorden. *hc*, N. Marler, Denton, Manchester. *c*, B. Jarvis, Mansfield.

Hamburgh (Silver-pencilled).—1, J. Laming. 2, A. Houghton, Ashfordby, Melton Mowbray.

Hamburgh (Gold-spangled).—1 and Cup, T. May, Wolverhampton. 2, J. Laming. *hc*, S. & R. Ashton, Mottram; N. Marler.

Hamburgh (Gold-pencilled).—1, J. Laming. 2, W. Tickner, Ipswich, Suffolk.

Game.—Cup, Mrs. Fludyer, Uppingham. *c*, Exors. of J. Hawley.

Game (Red and other dark colours).—*Cock.*—1 and Cup, S. Matthews, Stowmarket. 2, Mrs. Fludyer. *hc*, T. Whittaker, Melton Mowbray; R. Hall, Cambridge; H. Warner; B. Jarvis, Apsley Cottage, Mansfield. *c*, E. Winwood, The Grove, Worcester; T. Garton, Oakham; R. L. Healey; J. Eaton, Vine Cottage, Farnsfield, Notts. *Hens or Pullets.*—1, S. Mathews, Stowmarket, Suffolk. 2, T. Garton, Oakham. *hc*, R. Hall; Mrs. Lowther, Barleythorpe Hall; R. Swift, Southwell, Notts; B. Jarvis, Apsley Cottage, Mansfield; R. L. Healey; W. Bradley, Worcester.

Game (Piles, and light colours).—*Cock.*—1, S. Mathews. 2, E. Winwood, *hc*, W. Smith, jun., Easthorpe, Bottesford; G. Henfrey, Mapleback, Newark. *c*, M. Brown, Melton Mowbray. *Hens and Pullets.*—1, E. Winwood. 2, W. H. Mitchell, Moseley, Birmingham. *hc*, S. Deacon, Polebrook Hall, Oundle.

Bantams (White, clean legs).—1, S. & R. Ashton. 2, H. Draycott, Humberstone, Leicester. *c*, H. L. Bradshaw, Wakerley, Northampton.

Bantams (Black, clean legs).—1, Cup, and 2, H. Draycott. *hc*, A. Storrar; W. A. Taylor. *c*, S. & R. Ashton.

Bantams (Silver-laced).—1, G. H. Finch, M.P., Oakham.

Bantams (Any other distinct variety).—1, J. Adkin, jun., Walsall. *hc*, H. Warner; Mrs. Woodcock. *c*, H. Draycott.

Game Bantams.—*Cock.*—1 and 2, W. B. Jeffries, Ipswich. *hc*, M. Kew; H. Hedley; Miss S. E. Wellington; A. Storrar, Peterborough. *c*, H. Warner, Loughborough; T. Dyson, Halifax; J. Eaton, Farnsfield, Notts. *Hens or Pullets.*—1 and Cup, W. B. Jeffries. 2, J. Eaton. *hc*, S. Deacon, Oundle; M. Kew; H. L. Bradshaw, Wakerley; Miss S. E. Wellington.

Polands (Any colour).—Prize, G. W. Boothby, Louth.

Crossbred.—*Chickens.*—1, J. Longland, Grendon, Notts. 2, Miss S. Wellington. *hc*, H. Dowsett, Pleshey, near Chelmsford; Miss S. E. Wellington, Oakham. *c*, M. Kew; N. Savile; Mrs. A. Blackwood, Oakham.

Any other Distinct Variety.—1, W. Dring, Faversham, Kent. 2, Right Hon. Lady Berners, Keythorpe Hall.

Turkeys.—*hc*, Mrs. Lowther; M. Key, Oakham. *Cock.*—1, G. R. Pearson, Witham Common, Colsterworth. 2, Mrs. A. Guy, Eaton, Grantham. *hc*, Marchioness of Exeter; M. Kew, Market Overton, Oakham; T. N. Beasley, Northampton; Mrs. Berridge, Burley-on-the-Hill, Oakham. *Hens.*—1 and Cup, G. R. Pearson. 2, M. Kew. *hc*, M. Kew; Mrs. A. Guy. *c*, L. Patton.

Ducks.—*hc*, G. H. Finch, M.P., Oakham; Mrs. Lowther.

Ducks (White Aylesbury).—1 and Cup, Mrs. Seamons, Aylesbury. 2, J. Hornby, Grantham. *hc*, W. Carver & Sons, Ingarsby, Leicester; Mrs. Seamons. *c*, S. Deacon, Oundle; M. Kew; G. H. Finch, M.P.; H. V. Story.

Ducks (Rouen).—1 and 2, L. Patton. *hc*, H. Warner, The Elms, Loughborough; H. Yardley, Market Hall, Birmingham; R. Swift, Southwell.

Ducks (Any other variety).—1, M. Kew (Grey Calls). *hc*, M. Kew (Buenos Ayrean); Mrs. Lowther, Barleythorpe Hall (Buenos Ayrean); H. V. Story, Derby (White Muscovy).

Ducks (Crossbred or Common).—*Ducklings.*—1 and 2, Mrs. Berridge.

Geese (White).—Prize, J. Garton, Cotes, Loughborough. *hc*, Mrs. Berridge; N. Savile, Rufford Abbey, Ollerton. *Goslings.*—1 and Cup, Mrs. Seamons, Hartwell, Aylesbury. *hc*, T. N. Beasley; Mrs. Berridge; J. Christian, Oakham.

Geese (Grey).—Prize, Rev. C. H. Lucas, Edithweston, Stamford. *hc*, Mrs. E. Goodliffe, Stilton, Hunts; M. Kew. *Goslings.*—1, M. Woodroffe, Stanford, Loughborough. *hc*, Mrs. Seamons; M. Kew.

Selling Class.—1 and Cup, T. M. Derry, Gedney (Partridge Cochins). 2, J. Stephens (Black Spanish). *hc*, W. A. Taylor, Manchester; M. Kew; W. Dring, Faversham, Kent; Mrs. Berridge; G. Clarke, Long Sutton;

A. B. Brackenbury, Downham Market; H. Chappell, Oakham; J. Stephens, Walsall. *c*, S. Deacon, Oundle; G. Clarke; G. H. Finch, M.P.; Mrs. Brackenbury; J. Wright, Melton Mowbray.

PIGEONS.

Tumblers.—1, J. H. Ivimy, Lingfield, East Grinstead, Sussex. 2, H. Brown, Walkley, Sheffield. *c*, J. McArdale, Kensington, Liverpool; H. Yardley.

Carriers.—1, E. Walker, Leicester. 2, J. C. Ord, London. *c*, H. Yardley; H. Hedley, Thurmaston, Leicester.

Pouters.—1, E. Walker. 2, R. F. Payling, Peterborough. *hc*, R. F. Payling; H. Draycott, Hamberstone. *c*, H. Brown, Walkley, Sheffield.

Jacobins.—1, H. Yardley. 2, J. C. Ord. *hc*, H. Hedley. *c*, J. C. Marshall, Peterborough.

Fantails.—1, J. D. Loversidge, Newark-on-Trent. 2, F. H. Paget, Birstall, Leicester. *hc*, H. Yardley.

Trumpeters.—1, J. C. Ord. 2, E. Sheerman, Chelmsford, Essex. *hc*, Mrs. Woodcock, Leicester. *c*, J. H. Paget.

Nuns.—1, H. Yardley. 2, W. Croft.

Turbits.—1, H. Yardley. 2, J. C. Ord. *hc* and *c*, F. H. Paget.

Runts.—1 and 2, H. Yardley.

Any other New or Distinct Variety.—1, J. H. Ivimy. 2, H. Draycott, Hamberstone, Leicester. *hc*, J. McArdale; H. Hedley; H. Draycott; J. C. Marshall, Peterborough; J. C. Ord. *c*, J. McArdale; H. Hedley; F. H. Paget; E. Brown, Sheffield.

CHIPPENHAM POULTRY SHOW.

All the arrangements were excellent, and most of the poultry exhibited were of very superior quality. The Grey *Dorkings* were better than have yet been shown in this neighbourhood; and the *Game* fowls merited our highest praise. The *Polands* were of great merit, particularly the Silver-spangled. The *Hamburgh* classes were also well filled. Of *Brahmas* there was only a very small entry, and those not what could be wished. The Aylesbury and Rouen *Ducks* were praiseworthy, and the *Turkeys* and *Geese* would have been a great credit to any show. A hybrid, bred between the wild English Pheasant and a common domestic fowl, was a good specimen, and proved very attractive. The weather was exceedingly fine, and the attendance unusually large.

Dorkings.—1, Miss Millward, Newton St. Loe. 2, G. Hanks, Malmesbury. *c*, J. Kingdon, Calne; Rev. J. Hoysted, Bradenstoke.

Spanish.—1, Tonkin & Tuckey, Bristol. 2, A. Heath, Calne.

Game (Black-breasted and other Reds).—1 and 2, H. Stagg, Netheravon.

Game (Any other variety).—1 and 2, G. Sainsbury, Devizes. *c*, G. Hanks.

Cochins.—1, Miss Millward. 2, J. W. W. Hulbert, Chippenham.

Brahmas.—1, J. Kingdon. 2 and *c*, W. Hanks, Somerford. *hc*, Rev. J. Hoysted.

Hamburghs (Gold or Silver-pencilled).—1, T. Sealy, Little Somerford. 2, J. Orlidge, Chippenham. *hc*, J. W. W. Hulbert; — Thompson, Calne.

Hamburghs (Gold or Silver-spangled).—1, J. W. W. Hulbert. 2, J. S. Maggs, Tetbury.

Polands.—1 and 2, J. Hinton, Warminster. *c*, R. C. Forster, Freshford.

Game Bantams.—1, E. Cambridge, Bristol. 2, E. C. Owen, Shrivenham.

Bantams (Any other variety).—1, E. Cambridge. 2, N. J. Clark, Bristol.

Any other Distinct Breed.—1, Wyndham & Ward, Salisbury. 2, J. Hinton. *hc*, R. C. Forster.

Cross-Breeds (Distinct).—1, G. S. Sainsbury. 2, — Vick, Chippenham.

Turkeys.—1, Miss Milward. 2, S. W. Stokes, Heddington.

Geese.—1, J. Baker, Allington. 2, G. Hanks. *hc*, H. Say, Lacock.

Ducks (Rouen).—1, G. M. Hulbert. 2, G. S. Sainsbury. *hc*, G. Hanks.

Ducks (Aylesbury).—1, J. S. Maggs. 2 and *hc*, G. Hanks.

Ducks (Any other variety).—1, H. Brinkworth. 2, Rev. R. H. Mullens. *c*, J. Goulter.

Sweepstakes for Game Cock.—1 and 2, H. Stagg. 3, G. S. Sainsbury.

Extra Stock.—Extra Prize, R. J. Butler (Peacock). *c*, F. W. Dowding, Chippenham (Mule).

The Judge was Edward Hewitt, Esq., Sparkbrook, Birmingham.

JOHNSTONE POULTRY AND PIGEON SHOW.

(*From a Correspondent.*)

Last year the Exhibition was held in an empty mill, which served the purpose extremely well, but this year I was astouished at the beautiful hall in which the Show of November 19th took place.

The first on the catalogue was the *Spanish*, and certainly this class was well represented, the first-prize pen being first-rate. *Dorkings* formed a good class; the first-prize cock was good in every respect, except in weight, but this will soon be made up. *Brahma Pootras* or *Cochin-Chinas* were very good, but in my estimation the Brahmas ought not to have been first, but the Cochins, which were in every way better, and I would advise the Committee to make a class for each. The Black or Brown Red *Game* were excellent, and the awards were very correct. The first-prize cock (Duckwing) was a powerful bird, good in limb, but rather light in body. The *Scotch Greys* were an excellent class, but I am sorry to say that some of the birds were debarred from receiving awards because their feathers were improved artificially. Golden-spangled *Hamburghs* were numerous and good. The Golden-pencilled Hamburghs were not behind the Spangled Hamburghs; I consider the third-prize pen should have stood higher. Silver-spangled Hamburghs were good, and the judgments not out of place. Silver-pencilled Hamburghs were not so numerous as the other classes, but the prize birds were really good. Game *Bantams*, as is usual at almost every show, were very numerous, perhaps more than thirty pens being exhibited. The judgment was very creditable in this class, and the first-prize pen was nearly perfect. In Bantams, any other colour, Sebrights gained the day, but I consider the Black Bantams were more perfect. In the "Variety" class a beautiful pen of Malays and Sultans was overlooked altogether, though the prize Polands were very good. The Rouen and Aylesbury drakes and *Ducks* were first-class. The Selling class consisted of different varieties, and Pencilled Hamburghs seemed to be the taste of the Judges.

The *Pigeons* on the whole were very good, but I am sorry to say that the "dressing" was rather glaring. Blue Pouters were lengthy and good-coloured; Black Pouters were good, but were overdone in polishing; White Pouters were good, but entirely overlooked. It is seldom so many good Carriers are exhibited at a show like Johnstone. A good many of the Short-faced Tumblers were helped by the "brush," but were nevertheless good. Barbs were first-class and numerous, and the awards were rightly given. Fantails were of a superior kind. Jacobins were good and well judged. Common Tumblers and common Pigeons were of an ordinary quality. In the Variety class a beautiful pair of White Owls was awarded the first prize, and also an eight-day timepiece, as being the best pen from class 7 to class 12. Black Pouters gained the other timepiece in the other division of the Pigeons; the Black Pouters belonged to J. Millar, Glasgow, and the Owls to Mr. J. Fielding, Rochdale. In the poultry department Miss Hodgart's (Paisley) Spanish gained a timepiece, and J. Stewart's (Barrhead) gained another. The silver bread-basket was gained by Bellingham & Gill, for the best pair of hens; the second prize (a silver sugar-bowl) was gained by a pair of Dorking hens belonging to Mr. J. Gray, Airdrie.

Spanish.—1, A. Hodgart, Paisley. 2, H. Wilkinson, Earby, Skipton. Extra 2, A. Yuil, Calderbank, Airdrie.

Dorkings.—1, J. Gray, Airdrie. 2 and 3, A. J. Muttor, Kilmarnock.

Brahma Pootras or Cochin-Chinas.—1, A. Grant, Glentyan Mills (Brahma). 2, J. Boyd, Paisley (Brahma). 3, T. H. Reedman, Whitby (Cochin).

Game (Black or Brown Red).—1, J. Waddell, Acrehead, Dumfries. 2, R. Alexander, Bridge-of-Weir. 3, J. Logan, East Shields, Carnwarth.

Game (Any other colour).—1, R. Andrew, Grahamston. 2, J. M'Indoe, Barrhead. 3, J. Waddell.

Scotch Greys.—1, R. Blair. 2, J. Taylor, Johnstone. 3, M. M'Donald, Johnstone.

Hamburghs (Golden-spangled).—1 and 3, J. Jardine, Kilmarnock. 2, R. Tyson, Longtown, Carlisle.

Hamburghs (Golden-pencilled).—1, R. Clark, Johnstone. 2, J. Howe, Paisley. 3, J. Mair, Craigie, Kilmarnock.

Hamburghs (Silver-spangled).—1, J. Stewart, South Arthurlie, Earrhead. 2, R. Bruce, Busby. 3, J. Moodie, Paisley.

Hamburghs (Silver-pencilled).—1, H. Arndle, Stonefield, Paisley. 2, R. T. Gemmell, Glasgow. 3, H. Pickles, jun., Earby.

Game Bantams.—1, J. Waddell. 2, J. Gow, Kilmarnock. 3, B. Muir, Knox, Kilbirnie.

Bantams (Any other variety).—1, W. Morris, Linside, Paisley (White). 2, H. Pickles, jun. (Black). 3, R. Stirrat (White).

Any other Variety.—1, H. Pickles, jun. 2, W. M'Kenzie, Paisley (Polands). 3, J. Allan, Kilbirnie (Crêve-Cœurs).

Ducks (Aylesbury).—1 and 2, A. Robertson, Kilmarnock. 3, Z. H. Heys, Barrhead.

Ducks (Any other variety).—1, A. Robertson. 2, A. Grant, Kilbarchan. 3, J. Logan, East Shields, Carnwath.

Selling Class (Any breed).—1, C. Martin, Barrhead. 2, A. Mitchell Paisley. 3, H. Wilkinson.

Any Breed.—*Hens.*—1, Bellingham & Gill, Woodfield, Burnley. 2, J Gray.

Extra Prizes.—Miss Hodgart (Spanish); J. Stewart, South Arthurlie, Barrhead (Silver-spangled Hamburghs).

PIGEONS.

Pouters (Blue).—1, J. Millar, Glasgow. 2, R. Arbuckle, Parkhead. 3, H. Thomson, Glasgow.

Pouters (Any other colour).—1 and 3, J. Millar, Glasgow. 2, J. Mitchell, Glasgow.

Carriers.—1, J. Millar. 2 and 3, J. Muir, Glasgow.

Tumblers (Short-faced).—1 and 2, J. Muir. 3, J. Millar.

Barbs.—1 and 3, J. Muir. 2, J. Millar.

Fantails.—1, J. Sharp, jun., Johnstone. 2, J. Galt, Kilbirnie. 3, W. Jacobins.—1 and 3, P. Donald, Johnstone. 2, J. Waddell.

Tumblers (Common).—1 and 2, D. K. M'Kay, Glasgow. 3, P. Donald.

Common.—1, J. Lamont, Kilwinning. 2, R. Stirrat, Dalry. 3, A. Walker, Dalry.

Magpies and Nuns.—1, J. G. Orr, Beith. 2 and 3, P. Donald.

Any other Distinct Breed.—1, J. Fielding, Rochdale. 2, G. White, Ladyburn. 3, P. Donald.

Selling Class (Any breed).—1, J. Galt, Maybole. 2, P. Donald. 3, J. Smith, Johnstone.

Extra Prizes.—J. Millar (Black Pouters); J. Fielding (White Owls).

The Judges were:—*Poultry:* A. Paterson, Esq., Airdrie; J. M'Innes, Esq., Paisley; J. H. M'Nab, Esq., Barrhead; T. Short, Esq., Partick. *Pigeons:* J. Hnie, Esq., Glasgow; and J. H. Frame, Esq., Carluke.

BEE FARMING IN 1869.

In many counties of England the honey harvest has been satisfactory this year. The yield has been greater than for some years previous. Last year bees were remarkably loath to swarm—comparatively few swarms were obtained; whereas this year they swarmed freely, often before the hives were well filled. Last year they clustered about their doors for weeks and months without swarming; this year they sent off colonies without clustering or hesitation. No explanation can be given of these things; their reasons or causes are deeper than the ken of mortals.

My balance sheet last autumn left me with a profit of 21*s.* per hive, or thereabouts, and in possession of twenty-eight stock hives. These we valued at 23*s.* each, or 7*s.* less than the tip-top price. The winter being mild, they kept their bees well—that is to say, they were in good condition in February of the present year. As my garden is too near the big city of Manchester for bees to gather much honey, I took twenty hives to cottage and market gardens three or four miles in the country. Of course, I pay rent, and I am glad to do so, for there my bees have richer pasture; but the expense of taking them to and from these farms is considerable. My expenses will overtop those of most bee-keepers. This year my expenses are unusually heavy, amounting to more than 10*s.* per hive. Two of the hives in the country I found in May had queens which had never been mated, and were, therefore, useless. Thus my number was reduced to twenty-six. Of these, two never swarmed; the rest yielded thirty-three swarms, three of which were lost for want of hiving. After swarming, the queens of two hives were lost on their marriage tour, thus adding to the list of my misfortunes.

Owing to the prevalence of easterly winds, the season, on the whole, was not a favourable one for the accumulation of honey in this locality. These easterly winds either hinder the secretion of honey in flowers, or dry it up. Still honey in moderate quantity was gathered, the roar of contentment was kept up, great quantities of brood were hatched, the bees were always prepared to do more work than the weather permitted. At the close of the season my best first swarms ranged in weight from 70 lbs. to 80 lbs. each, the second swarms from 30 lbs. to 40 lbs., and the stocks or parent hives, from 50 lbs. to 70 lbs. each. These weights indicate considerable stores of honey, and large profits. But when we commenced to take the honey to supply an order for 500 lbs., we found much of it discoloured; and the discoloured honey was so mixed with the good and pure, that we could not take the one from the other without great loss. We did not hesitate about declining to supply the gentleman who had ordered 500 lbs., for we felt sure the honey would not please either him or his customers; but the difficulty was, what to do with the heaviest hives. We resolved to offer them for sale at a price less than the value of the honey in them. Hence, we sold some, and kept far more for another year than we had intended to keep. There are forty-two hives kept as stock for another year. Many of them are large and good, with ample stores of honey; but owing to the misfortune of having to sell some of the bees with their honey, they have not received swarms and half swarms in the usual way practised here. Still, I value them at 23*s.* each. If I had an extra swarm to put into each, they would have been worth 30*s.* each, and second to none.

How did the honey become discoloured? The sycamore, lime, and oak trees in this neighbourhood were covered with a glittering substance produced by insects, which ignorant people call honeydew. When flowers are scarce, bees work on these shining leaves, and in this way honey becomes damaged. Two years ago, much English honey was dark and unsaleable.

Expenses.	£	s.	d.
New hives, boards, and honey glasses	4	0	0
Feeding	1	4	0
Rent	4	0	0
Carriage	4	0	0
	13	4	0

Income.	£	s.	d.
Hives sold	12	8	0
Honey and honeycomb	15	0	0
Increase of stock	16	10	0
Total	43	18	0
Deduct expenses	13	4	0
Profit	30	14	0

When writing the above, a note came from my friends at Carluke, in Lanarkshire, where bee-keeping is a source of great profit. The writer says:—

"Carluke, October 5th, 1869.

"My dear old Friend,—I beg to be excused for not replying to your note sooner, but I waited till I got my bees home from the moors, and the honey taken from them. I jarred it all up yesterday, and find that out of ten hives we have taken upwards of 410 lbs. The heaviest hive we had weighed 120½ lbs., two or three of them about 93 lbs, the rest from 60 lbs. to 70 lbs. We had three boxes of honeycomb also, which realised 27*s.* The above is the produce of six stales or stock hives. So you see the bees have done well with us this season. One hive, a second swarm 80 lbs. weight, was sold for £2 5*s.*—Yours truly, R. R."

These figures indicate £22 income from six hives; the expenses are not stated. His heaviest swarm was, as mentioned above, 120½ lbs.; the heaviest in the parish, 128 lbs. Last year the heaviest swarm was 168 lbs.; in 1866, 140 lbs.; and in 1864, 162 lbs. This year my aunt, aged 78, a veteran bee-keeper of sixty years' standing, had 250 lbs. of honey from four stocks. A disease never before known in the parish has appeared in many hives this year. It has been described to me by several of the leading apiarians there. Much of the brood dies in the combs. It is not foul, for when the combs are taken out and broken, the brood—small, exceedingly small, bees—perfect in form, dead and dry, roll out in great numbers, like small peas, on the floor, I am quite unacquainted with this disease.— A. Pettigrew. *Rusholme, Manchester.*

Curiosities of Natural History.—A black Woodcock has been shot in Norfolk. A pied Thrush, white in the head, body, and throat, with brown wing and tail, has been captured near Chippenham. At Peckham, on November 9th, Sparrows were busy building. Do they anticipate a mild winter? The grey Phalarope has entered an appearance in Sussex in considerable numbers. The assumption by a sterile female Silver Pheasant of the male plumage is a remarkable phenomenon, not hitherto observed in this species. She was originally brown, but is now nearly all white, the long white feathers of the tail giving her entirely the appearance of a cock bird.—(*Exchange and Mart.*)

OUR LETTER BOX.

"Aliquis," we regret to hear, is incapacitated for writing at present, but he hopes to be able to notice his opponents next week.

Broken Crockery (*H. C. J.*).—If broken into very small fragments it might be useful where gravel could not be resorted to by fowls, but it is not possible that it could supersede the need of mortar or chalk for them, inasmuch as no common crockery contains lime.

Game Piles' Legs (*Nemo, Nantwich*).—There is no specified colour that is absolutely required by judges. We prefer white, but yellow and willow are admissible.

Black Hamburghs for Exhibition (*Black Hamburgh*).—Your diet will do; but do not overfeed the birds, and one week's confinement previous to the show would be quite enough. Certainly do not let them be relaxed in their bowels. Leave the pills alone.

Cross Between a Dorking and Guinea Fowl (*H. W.*).—We have seen the result of the cross you mention. The hybrid bird resembled the Guinea fowl in shape generally, and in its plumage; the head, feet, and flesh resembled the other parent.—B.

Brahma Pootra Vulture-hocked (*Subscriptum ab initio*).—If the red marks in your sketch represent the feathers the bird is decidedly vulture-hocked.

Fowls Waiting for Shipment (*G. G.*).—In keeping birds that are waiting for shipment, it is always advisable to put them as soon as possible in the pens in which they are to make the voyage, supposing you speak of one of considerable duration. In all breeds, with the exception of Game fowls, a pen of a cock and two or three hens may be sent in one pen or compartment. The food must be light and easy of digestion, and water but sparingly given.

Houdan's Wing Injured (*E. P. F.*).—Your Houdan, if it has lost a portion of its wing proper, would stand but little chance in competition. If, however, you have cut the plumage, the bird would most likely be disqualified as "marked."

Winter Food for Fowls (*Far West*).—We find no food answer so well as good barleymeal or ground oats made into stiff dough and given night and morning; a little maize or tailing wheat at mid-day. If extra feeding be required, a small quantity of thoroughly scalded tallow greaves may be mixed with the meal.

Game Fowl's Eyes Swollen (*A. B.*).—We should recommend for your fowls a thorough change of diet, and a course of castor oil, the heads frequently washed with vinegar and water, and we should put camphor in their drinking water. Baily's roup pills may be given with advantage.

Wing Disease in Pigeons (*Fox*).—Apply tincture of iodine, which you may obtain of any chemist, and he will, according to the strength he makes it, tell you how often it should be applied. In addition, attend in every way to the health of your bird.

Teaching a Parrakeet to Talk (*J. A.*).—If you want a bird to talk, you must teach it by talking to it, saying the same word over and over again, when the bird and you are alone. Parrakeets are, however, more pleasing to the eye than to the ear. Far from fluent, yet they please by their beauty, their graceful movements, and their affectionate disposition.

Driving Bees (*L. H.*).—The instructions for uniting bees by driving, given in "Bee-Keeping for the Many," do not embrace the removal of the supernumerary queen, as the bees will themselves usually settle this question in a satisfactory manner. A bee-veil and gloves had better be worn by a novice, although these are quite unnecessary when the operator is a skilled apiarian.

Cooking Cardoons (*Rev. W. H.*).—Cut them in pieces 6 inches long, and put them on a string; boil till tender, have ready a piece of butter in a pan, flour and fry them. They may also be fried in bundles and served as asparagus, boiled on a toast, and butter poured over. Another method is to cut them in pieces, take off the outside skin, and wash and scald them. Put them into a stewpan, add stock enough to cover them, boil till three parts done, and the liquor nearly reduced; then add a little bechamel, and stew them gently till done. Serve with sippets of fried bread round the dish, and the cardoons in the centre.

POULTRY MARKET.—December 1.

	s.	d.		s.	d.		s.	d.		s.	d.
Large Fowls	3	0	to	3	6	Partridges	1	4	to	1	6
Smaller ditto	2	6		3	0	Goose	2	0		2	6
Chickens	1	6		1	9	Pigeons	0	8		0	9
Geese	6	0		7	6	Hares	2	6		3	0
Ducks	2	0		2	6	Rabbits	1	4		1	5
Pheasants	2	6		3	0	Wild ditto	0	9		0	10

WEEKLY CALENDAR.

Day of Month	Day of Week.	DECEMBER 9—15, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
9	Th	Meeting of Royal and Zoological Societies,	46.5	34.8	40.6	17	56 af 7	50 af 3	after.	18af 10	6	7 20	343
10	F	Grouse shooting ends. [8.30 P.M.	46.8	32.5	39.6	25	57 7	50 3	41 af 0	24 11	☽	6 52	344
11	S		46.2	32.8	39.0	17	58 7	49 3	1 1	morn.	8	6 25	345
12	Sun	3 Sunday in Advent.	46.3	33.4	39.9	18	59 7	49 3	21 1	39 0	9	5 57	346
13	M		47.0	32.4	39.7	23	0 8	49 3	39 1	35 1	10	5 28	347
14	Tu	Prince Consort Died, 1861.	46.4	33.5	40.0	20	0 8	49 3	58 1	39 2	11	5 0	348
15	W		46.2	34.7	40.4	18	1 8	49 3	21 2	45 3	12	4 31	349

From observations taken near London during the last forty-two years, the average day temperature of the week is 46.5°; and its night temperature 33.4°. The greatest heat was 63°, on the 12th, 1841; and the lowest cold 13°, on the 9th, 1867. The greatest fall of rain was 1.24 inch.

HEATING BY HOT-WATER PIPES.

PERHAPS in the long list of horticultural means and appendages, none are so little understood as the theory and practice of heating by hot water, nor any of them surrounded by so much mystery; yet the subject is so simple, and requires so little time to master it, that no lady or gentleman should be ignorant on this point or liable to be imposed upon.

Very few indeed understand why the water circulates in the pipes, the prevalent idea being that the fire drives the water out of the boiler with great force. Such is not the case, the circulation of water is always comparatively weak. The force it possesses is only equivalent to the difference in weight between the ascending and descending column of water. Hot water is lighter than cold; therefore when the fire is applied to the boiler the water in it becomes hotter and lighter than that in the pipes attached to it, consequently it ascends, and its place is supplied by the water in the pipes, which is cold and heavier. The pipes being higher than the boiler, the water descends into it. This goes on till the whole of the water in the apparatus becomes comparatively warm. Of course the water is hottest in the boiler, hot in the flow pipe, and cooler in the return. What I mean by this is that the water is gradually cooled as it leaves the boiler by the heat being absorbed from it by the action of the air on the surface of the pipes. Thus the force of the current corresponds to the difference between the boiler and the return pipe in the temperature and specific gravity of the water. The force is easily calculated, but it would not be interesting to go into details of this kind; let it be sufficient to say I believe the average force in a 4-inch pipe as usually laid in a greenhouse is only equal to about one-third of an ounce. This tells us we must so place the pipes as to afford no resistance to the current—that is, we must have no sharp turns nor irregular depressions, especially in the return pipe, which should always have an even descending course.

When about to construct a warming apparatus, the first point is to decide upon the kind of pipes we shall use—that is, Should they be large or small? Small pipes become hot the quickest, present more heating surface in proportion to the water they contain, require less fuel, and become cold quicker than those of larger diameter. They are more portable, and far more expensive. Pipes of large diameter do not present so great a heating surface in proportion to their cubic contents, but they keep hot longer after the fire is out, and are cheaper, and perhaps more suitable to greenhouses.

To make this clear, a 4-inch pipe contains in each foot of length nearly 146 cubic inches of water, and presents about 144 inches of heating surface; a 2-inch pipe contains in each foot of length nearly 38 inches of water, and presents 72 inches of surface: therefore one row of 4 inch pipes gives off as much heat as two rows of 2-inch pipes, but contains nearly double the quantity of water and requires double the quantity of fuel to keep up the heat—that is, the two rows of 2-inch pipe are equal in warming power to the one row of 4-inch, and superior to it in economy.

Having decided on the diameter of the pipes, we next require to know the quantity we shall want to keep a certain house warm. This is done by proportioning the surface presented by the pipes to the surface presented by the glass; for so great is the cooling power of the glass that it puts the cubic contents of the house out of the calculation. Therefore we only require to know how much air a foot of glass will cool down from a certain temperature to a lower one, and the quantity of air a foot of heating surface will raise in temperature in the same (opposite) way. However, it would, I fear, make my paper too long if I were to go into this matter scientifically: so I will give a rule for calculating the quantity of pipes required to heat any building of the horticultural class.

Decide upon the heat you require in the house when the temperature of the external air is at the lowest point. The quantity of air to be warmed per minute is 1¼ cubic foot for each foot superficial of glass the house contains. When the quantity of air to be heated per minute has been decided upon, multiply 125 (the excess of the temperature of the pipe above that of the surrounding air), by the difference of the temperature at which it is proposed to keep the house above that of the external air, and divide this product by the difference between the temperature of the pipes and the proposed temperature of the house; then the quotient multiplied by the number of feet of air to be warmed, and this product divided by 222 (the number of feet of air raised 1° per minute by 1 foot of 4-inch pipe), will give the number of feet of 4-inch pipe required to produce the desired effect.

Now, we want to know how large a boiler we require to heat the water to supply the pipes. For each 50 feet of 4-inch pipe, the boiler must present one square foot of surface to the direct action of the fire: so if the house contains 200 feet of pipe, a boiler will be required that presents 4 feet of surface to the fire. Never count anything for the surface exposed to the action of flame upon the top of it, such as the top of any boiler, for the fire would never have power enough to boil water underneath it.

I have now stated enough to enable ladies or gentlemen to know which pipes will suit their purpose the best, how many feet of piping they will require, and the size of boiler necessary to heat the water. If they will only rely on their own judgment, and follow the teachings of science, they will not be so frequently disappointed in the warming of their horticultural houses.—John Woolfield, *Soho, Birmingham.*

GUERNSEY CHRYSANTHEMUMS.

Guernsey seedlings of this popular and useful flower—not that I personally like or admire it, considering it much overpraised—have become so well known to English shows, and have so good a place in Messrs Salter's list, that these brief notes of mine taken at an insular exhibition may add to the interest felt in them, Guernsey holding just now four

of the principal raisers. These four are named Smith, Davis, Pethers, and Clark. Strangely enough, Jersey has as yet produced nothing of value, so that possibly I may serve the cause of truth in vouching for this just discrimination. The initials of the raisers are added.

Of large-flowered varieties some of the best exhibited were, Lady Harding (C), of a delicate rose pink, a well-known show flower; Princess of Teck (P), pure white, of grand size, excellent for cut blooms; Princess of Wales (D), pearly white, delicate rose-lilac tints, of exquisite form in the florets; General Slade (S), Indian red, tipped purely and clearly with orange, and a very striking show flower; Guernsey Nugget (P), clear yellow with pink tinge, a full and distinct flower; Her Majesty (S), silvery blush, compact, and dwarf in habit; Gloria Mundi (C), brilliant golden yellow, somewhat like the well-known Jardin des Plantes, and a seedling from it, but earlier, being a great acquisition; Cherub (S), rosy, golden amber, a large well-shaped flower for cut blooms; Donald Beaton (S), dark orange red, a very beautiful show flower; Ossian (P), rose, very large, well-shaped, altogether a fine variety; Sir Stafford Carey (P), dark chestnut, edged with gold, very distinct and good; Mr. Gladstone (D), dark red chestnut, perfect shape, and a splendid show flower; Mrs. Cunningham, a sport from Queen of England; Mrs. Brunlees (S), delicate rose pink, of exquisite form, and having the merit of flowering late; Miss Marechaux (P), pure white, wide florets, and very good; Antonelli (S), orange salmon, large, and beautifully incurved; Lady Carey (S), rosy lilac, large, and extremely showy; Eve (S), pale primrose yellow, incurved, very perfect as a cut bloom.

A fine large specimen plant of Little Harry (S), of a bright golden hue, and of exquisite form of "petal"—indeed unsurpassable as such—was also exhibited. Christine and Golden Christine, were likewise very fine. The former, raised by Smith, is a fine large-flowered variety, of a rosy blush. Golden Christine is a sport from Christine.

The whole of these varieties, to which many more might be added, were produced in Guernsey, with the exception, I believe, of Golden Christine, and specimens of all were shown in various ways.

I may add that the show was not confined to Chrysanthemums, but the fruit was inferior. A basket of late American Peaches was sent from our orchard houses, being the only Peaches there. At Mr. Smith's, of the Caledonia Nursery—one of the Chrysanthemum raisers above mentioned—I also saw on November 27th a standard Maréchal Niel Rose, budded on a Manetti stock last July, having twenty-seven blooms on it. All the Roses on the Manetti in this nursery are budded on the principles laid down by Mr. Radclyffe. Not a sucker is to be seen. Climbing Devoniensis on a west wall was thriving. One of the island specialities, too, in the shape of bulbs, especially Gladioli, was well represented in this nursery. Guernsey can thus fairly claim a pre-eminence in Chrysanthemums, bulbs, Chaumontel Pears, and hurricanes. Jersey shares with us in the last three, but in the first is far behind.—T. C. Bréhaut.

HINTS TO AMATEURS ON GROWING AND FORCING SEA-KALE.

Of the few sorts of vegetables suitable for forcing, I am not aware of any that can be forced with such ease and economy as Sea-kale. Its delicious flavour and productiveness, even at the earliest season, have made its culture a source of profit to the market gardener; and because it can be brought to table with much certainty and little trouble when other vegetables are scarce, I am induced to communicate to amateurs and others who have small gardens, a plan I adopted some years ago to supply the large demands made upon me for this vegetable.

Having a small garden, I found it took too much space, time, and trouble, to treat Sea-kale in the usual way—namely, growing it thinly in beds, and forcing it there. I therefore resolved to grow my plants in a smaller space, and to force them elsewhere. Accordingly I selected a sunny open spot, trenched the soil 2 feet deep in November, added a little well-decomposed manure and plenty of road grit, and strewed enough common salt over the surface to well whiten the soil. All was well mixed together, and allowed to lie undisturbed until the following March. As early in that month as the ground is in a favourable condition for working, the seed should be sown 8 inches apart, in drills 3 inches deep, and if the soil is dry I prefer treading the seed in the drills previous to raking over the bed. The appearance of the plants above ground must be watched for, and their tender fleshy seed leaves guarded against the attacks of black fly, and the small black snail, by timely applications of finely-sifted soot and lime. When the plants are large enough, thinning must commence. It will be best done at intervals until the plants stand about 6 inches apart in the row; of course, care will be taken to leave all the best plants at the last thinning during the summer. The soil must be frequently stirred and cleaned, and a good supply of manure water occasionally will be an advantage.

By the middle of September fair-sized crowns will be formed, and soon after that the foliage will begin to change colour; some of this may be pulled off, and an inch or two of the soil removed from the bed in order to expose the crowns to the sun and ripen them. After about a fortnight in this state a layer of finely-sifted coal ashes over the bed will protect the crowns from slugs and mice. The latter will often attack the crowns more from mischief than hunger, and leave the pieces at the side, but they dislike burrowing in coal ashes. In taking up the roots for forcing, begin at one end of the bed, and trench out the roots carefully, as they are very brittle. Any other mode of proceeding will most likely result in injury to them.

At whatever time the first dish of Sea-kale may be wanted, preparation for forcing should be made a month beforehand. This I did in the following manner:—A sufficient quantity of heating material, such as stable dung and leaves, was collected into a heap and fermented for a week or ten days, turning it over once during that time. While this process is going on, prepare some pots, tubs, boxes, or any vessels 15 inches deep; they must be in pairs, for one has to be inverted over the other. Drainage must be secured, and the roots may be planted in any free common soil. For a pot 1 foot in diameter ten roots will not be too many.

A sufficient quantity for the first crop having been potted, and the heating material being in readiness, select a spot of ground in some out-of-the-way corner that will admit of a hole being dug 4 feet square, and 3 feet deep. Six inches of drainage should be provided, consisting of brick rubbish, wood, or, indeed, anything that is to be had. Into this hole pitch the manure, mix it carefully, and press it down firmly; then build it up 18 inches higher than the surface of the soil. As soon as the heating commences, plunge the vessels containing the plants up to the rim in the manure, and press it firmly round them with the hand. Cover these over with the corresponding part of the vessel, and let them remain. Now, in order to keep the heat in the manure, and make it rise, the whole may be covered with rough dryish litter a foot or more thick. Trial sticks must be inserted, and if the dung become too hot, which is not very likely, take off a portion of the litter. Should it become too cool, an 18-inch layer of heating material may be placed over the whole bed, including the Kale. A moderate temperature of from 50° to 60° is very suitable for Sea-kale. I ought to have said, that after the roots are potted a good watering should be given, and the water should be allowed to drain off before putting the pots in the bed. Examine them at times, and give more if wanted. If the weather is mild, a dish of Kale may be cut in three weeks, and each pot of twelve crowns ought to produce two dishes of six heads each, and if cut carefully so as to leave a part of the crown, more shoots will push forth, and another dish be secured, but the weak shoots should be pulled off. For a small supply two pots plunged at a time are sufficient, a succession being started in a week or ten days afterwards. Each bed of the above size will force four dozen roots.

I am aware that Sea-kale is forced for table in several ways, and, where conveniences are at hand, with less trouble; but as I write this paper for the amateur, and was for some years obliged to adopt any method of treatment by which I could increase the supply of this vegetable, I do not hesitate to recommend the plan to others similarly situated, and hope they will try it.—Thomas Record.

GESNERA EXONIENSIS.

Amongst the latest introductions of new plants, the beautiful Gesnera exoniensis is unsurpassed. From the easiness of its culture, the length of time it remains in flower, and its valuable qualities for the decoration of the dinner-table, it certainly deserves a place in every collection of stove plants, and cannot fail to become a general favourite. This year, early in March, I inserted two leaves in 3-inch pots containing a mixture of peat and silver sand; I plunged the pots in bottom heat, and each leaf soon formed three tubers. I then placed the young

plants near the glass in a stove, repotting them when it was necessary, and using a compost of sandy loam, peat, and a liberal quantity of silver sand, with the addition of some well-decomposed cow dung. The plants are now in 11-inch pots, show a multitude of flowers, and are 2½ feet in diameter, and one leaf measures nearly 9 inches across. In addition to the plant's beautiful flowers, its foliage is the admiration of all who see it.—William Jordan, *Cannizero Gardens.*

CLASSIFYING GRAPES—THOMSON'S WHITE LADY DOWNE'S.

Grape-cultivators have long felt the want of a really good late white Grape—one that could worthily take its place as a fitting companion to our present magnificent race of black varieties. We have, of course, had the Muscat of Alexandria itself, a white, without a black companion until quite lately; but in almost every other instance the black varieties have largely predominated over the white, and proved not only superior in quality, but in appearance also. To produce a really handsome dessert it is always necessary, to give proper effect, to employ two dishes of Grapes, one white, the other black. The most useful of our black Grapes is, no doubt, the Black Hamburgh, and of the white, Muscat of Alexandria. The first, however, although it may be kept tolerably late, is not particularly handsome in the early spring months, or a profitable variety for that season. We have had, therefore, to call in the aid of the Black Alicante (Black Tokay) and Lady Downe's. The Muscat of Alexandria, again, requiring a different treatment, and being more expensive of cultivation, is frequently not available, even if it were wanted; so that the burden of the entire late supply of Grapes rests with the black sorts, which have been without a suitable white companion until the advent of the subject of my notice—Thomson's White Lady Downe's.

The following classification of Grapes, black and white, suitable companions the one for the other, may prove of some interest. It includes only the leading varieties:—

Class 1.—	Black Hamburgh and its varieties	Black.
	Golden Hamburgh, Golden Champion, Buckland Sweetwater.....	White.
— 2.—	Madresfield Court, Mrs. Pince	Black.
	Muscat of Alexandria.....	White.
— 3.—	Alicante or Black Tokay	Black.
	White Tokay	White.
— 4.—	Gros Guillaume (Barbarossa)	Black.
	Trebbiano, Raisin de Calabre	White.
— 5.—	Lady Downe's	Black.
	Thomson's White Lady Downe's	White.

Grapes should thus, I think, be grown in classes—*i. e.*, a black and white variety of each class. It will be seen at a glance how much of similarity, both in appearance, quality, season, and requirements of cultivation, is borne by each variety in its class to the other. In the first, the black has somewhat the advantage, if we except the superior flavour of the Golden Champion. In the second the white is, undoubtedly, superior to the black. In the third the appearance is in favour of the black, the flavour, of the white. In the fourth it is so likewise; and in the fifth the black, which is well known, is now surpassed both in flavour and in its keeping properties by the white variety.

It is a fact which has often been noted that white Grapes, Grapes with light skins, keep longer plump and fresh in spring than those with black skins. White surfaces, we know, do not so readily absorb heat as black ones, and it appears to be so with Grapes. In March and April the white sorts do not absorb so much heat, which causes decay, as the black; consequently the former keep better, and in this way Lady Downe's, which is the latest black, is superseded in its keeping properties by its white offspring.

I consider Lady Downe's the best late black Grape yet in existence, and its companion is the White. Having now had for two seasons the pleasure of tasting the qualities of this new Grape as grown at Dalkeith, comparatively with the Lady Downe's growing alongside, I consider it in flavour superior to the old variety. It appears, also, to be entirely free from that peculiar tendency to scald, so annoying with the black variety. With the exception of the colour, the fruit when well grown is quite the same in all its appearances as the black, and the habit of growth, foliage, &c., of the plant are altogether the same.

The White Lady Downe's Grape is a seedling raised by Mr. Thomson, of Dalkeith, from seed taken from a bunch of black Lady Downe's, over which was shaken the pollen of Bowood Muscat. The cross, however, if there was any, seems to have been very slight. The progeny seems to partake more of the character of an ordinary sport from the old variety. Several other seedlings from this bunch were raised at the same time. One was named Golden Lady Downe's, and it had fine large berries and a fine bunch, but it proved of inferior quality, and its growth was discontinued. That name—Golden Lady Downe's, would have been the most appropriate for the variety under notice, but having been once awarded could not be again adopted. Some attempts are made to confound this variety with the former and inferior sort, from which it is totally distinct. I have also seen it advertised as Foster's White Seedling, or White Lady Downe's, the former being an early Grape, and possessed of no relation thereto whatever, further than its having been raised by Mr. Foster from seed out of the same berry as the black Lady Downe's.

The White Lady Downe's is a welcome addition to our stock of Grapes, and one which, when once its merits are known, will be extensively cultivated.—Archambaud.

AUTUMN RAMBLES.—No. 2.

One main object that I propose to myself in jotting down these few notes of an autumnal tour is, that if any brother horticulturist be led into the same byways as myself, he may know where to see what will suit his taste, and perhaps give him a hint in some of the many departments of our loved art. Nothing can be more provoking than in going to a place, to trudge off, it may be on a hot summer's day, to some place with a grand name, which you have picked out from a directory, and then to find that the owner has no care or love for flowers, and that it is only because it belongs to a lord or baronet that it has been inserted in the list; almost equally annoying is it to find that you have omitted some place where the owner is an enthusiastic lover of flowers. It is not every one who has an acquaintance in a strange place, or who knows exactly what you want; so it might have been at Norwich, but my son knew my wishes, and so prepared for me the treat I enjoyed so much. I do not pretend to give full descriptions of the gardens visited—in the first place, because they always seem to me to convey at best a poor notion of them, and secondly, because very few people care to read them. Thus my notes of Mr. Colman's were very brief, but I hope sufficient to induce others to visit his place; equally so will be those of the other two places I saw on the same day. Crossing the river close to Mr. Colman's the road leads up to Thorpe hamlet, one of the suburbs of Norwich, where a large number of those who are engaged in the city have their residence, and after a short walk we come to

THE RESIDENCE OF ISAAC B. COAKS, ESQ.

The house is situated on an eminence and overlooks the valley, while the towers of the cathedral and city churches, the citadel, &c., are to be seen in the distance. The house and grounds are both new, and a few years ago the place was a rough uncultivated piece of ground, but its present aspect betokens both a considerable amount of skill and perseverance, and also good taste. In the front of the house there are some good plants of Conifers which, after they have been there for a few years, will have a fine appearance. Amongst them I noticed some good plants of Thuja aurea and Wellingtonias.

The house stands on a terrace, and on one side is a fine conservatory of an ornamental character, in which were, amongst other usual occupants of such situations, some good plants of the new Golden Coleuses, which are very well suited for conservatory decoration, the finest being, perhaps, Baroness Rothschild, Her Majesty, and Princess Royal. On the other side of the house is a small sunken parterre, which is the extent of the bedding-out. I have never seen Mrs. Pollock Pelargonium in such robust health as in these beds; if it always did look like that no one would ask for a finer one in its class, or rather style, for there are two distinct styles—the pointed serrated leaf, such as Mrs. Pollock, Sophia Dumaresque, and, indeed, all Mr. Grieves's strain, and the round-leaved one, such as Sir Robert Napier, Mrs. Dunnett, Moonstone, &c.

Passing round by this parterre, you come on a range of low houses most admirably suited for the cultivation and growth of plants, and filled with a capital selection of stove and greenhouse plants, Orchids, and Ferns. Mr. Coaks is a very successful exhibitor; and although it is the fashion to find fault

with such places, and people say, "Oh, everything is sacrificed to the exhibition!" yet somehow one is sure to find in these places plants worth looking at, either for their novelty or good cultivation. I saw here some young plants of Geonomas, Livistonias, and other Palms. Ferns are also largely grown; amongst them I saw plants of what are as yet the finest in their respective classes, for surely nothing can exceed Todea superba amongst the Filmy Ferns, or Adiantum farleyense amongst the Maiden-hairs. Orchids, too, were also grown, and although not in large quantities, yet appeared in healthy condition—in fact, all the plants betokened careful and scientific cultivation, while plants of interest of recent introduction were evidently being added as their characters became established.

THICKTHORN HOUSE, THE SEAT OF F. WATSON, ESQ.

This is situated about four miles from Norwich, in a good-sized park. The house itself is a plain substantial building, containing some fine and well-proportioned rooms; and if anyone were to visit the place with the idea of seeing one of our new-fashioned gardens he would be greatly disappointed, for it is one of those old-fashioned ones with borders filled with many of the herbaceous plants banished from modern gardens, but which at all times furnished abundance of flowers of varied hues and forms, and the returning taste for which is to me one of the hopeful signs of horticulture. And yet I found here one of the prettiest pieces of bedding I have seen for some time. I do not recollect exactly the flowers with which the beds were filled; there was nothing uncommon in them, I am sure, but the situation and surroundings were pleasing. The site had been either a gravel pit or quarry; there was a small piece of water, a beautifully-kept sward, some nice foliage surrounding a croquet ground a little further off, and, altogether, it was very delightful. There was in the garden a goodly range of glass, but there were no plants in it, but a fine crop of Grapes, mainly consisting of Black Hamburghs and Muscat of Alexandria—just such houses as one would like to have oneself. There was no affectation of doing anything grand, no disbudding to grow huge bunches for exhibition, but a good honest crop of fairly-sized bunches, and this effected without any great, or, rather, extravagant cost, for this, I rather think, is a consideration not taken into account in the wonderful results of modern Grape-growing. What we want for general adoption is a system that will suit the pockets of those who are neither millionaires nor milords, and such a system seemed to be in use here.

I have thus attempted to give a very faint notion of my horticultural rambles round Norwich. I may not have visited places which were equally worth seeing, but I enjoyed my ramble very much. Each of the three places I went to represented different styles, and I may, perhaps, add different tastes; but they were all to my mind well worth seeing, especially as indicating how widespread is the love of horticulture amongst us, and how much of kindly feeling there is in the brotherhood of gardening.—D., *Deal*.

OCTOBER.

THE October of this year has been peculiarly trying, particularly among late orchard fruit where there were a few left, for we were visited with some very heavy gales, chiefly from the north-west to north-east, which blew off Apples and Pears, beating and bruising others, and spoiling them for keeping purposes. What with frost and piercing wind, the trees in one day and night had the appearance of being scorched. I never remember having seen the like before; we had trees brought down by the force of the wind, and large limbs torn off others. Winter Greens, Cauliflowers, and Broccoli have suffered much, being twisted about in all directions, and many of the large leaves altogether broken by the force of the wind. Some of the plants were almost torn up, many of them lying level on the ground. On the morning of the 19th the thermometer at 6 A.M. indicated 6° below freezing point, but the air being dry at the time I am inclined to think we suffered more from wind than frost, as Pelargoniums, Verbenas, and other plants left out of doors were not blackened by frost.

At the beginning of the month we were much annoyed by caterpillars of different kinds, but by constant picking most of the Cabbage tribe are now pretty clear. We had here a bed of Black Prince Strawberry plants in bloom, but the winds have destroyed them. Several Apple trees had some fine clusters of blossoms open before the storm, but they were swept away. A second crop of Marie Louise Pears on orchard trees promised at one time to arrive at a moderate degree of perfection, but it is all over with them now. Celery has suffered much; most of the leaves have been blown away altogether. The Potato disease has shown itself among late kinds; Haigh's or Lapstone Kidney appears to be most affected. Some that were supposed to be free from disease when lifted have become bad, though they were selected and stored away dry, and with care. It has been a very severe month, and will long be remembered by many.

PLANTS FLOWERING IN OCTOBER.

4th. Magnolia grandiflora
Abronia umbellata
Francoa sonchifolia
Calendula Pongei pleua
Callirhoe verticillata
Carduus benedictus
Aster chinensis
Apples
Lupinus pubescens
mutabilis
Menziesii
Acanthus mollis
Acrochinium roseum
Ipomœa hederacea
Quamoclit
Leasa aurantiaca
Rose, Monthly China
Fabvier
Malcomia maritima
Physalis Alkekengi
Getaurium nobosum
Rudbeckia fulgida
Neumannii
Aster tenellus
Cacalia coccinea
aurea
Alonsoa incisifolia
Ammobium alatum
Campanula alliariæfolia
grandis
Lorei alba
persicifolia
Anemone japonica
Cineraria maritima
Convolvulus mauritanicus
Heliotropium peruvianum
Eschscholtzia alba
Dianthus Caryophyllus
Clematis Vitalba
Viticella
Delphinium formosum
Arctotis breviscapa
Argemone grandiflora
Celosia pyramidalis
Commelina cœlestis
Armeria formosa
Artemisia annua
maritima
vulgaris
Centaurea argentea
gymnocarpa
Lychnis Dis-Jovis
Malope grandiflora
8th. Myosotis palustris
Pyrethrum Golden Feather
Nemophila insignis
Nigella hispanica
Pectis angustifolia
Pentstemon coccineum
venustum
Aloysia citriodora
Colchicum autumnale plenum
Erica ramentacea
stricta
Hordeum jubatum
Cyclamen europæum
hederæfolium
Xeranthemum purpureum
Centaurea moschata
Malva zebrina
moschata alba
Nicotiana virginica
Orobus coccineus
Mimulus tigrinus
Nolana paradoxa
prostrata
Perilla nankinensis
Petunia grandiflora
Sanvitalia procumbens
Portulaca splendens
Rudbeckia amplexicaulis
Maurandya Barclayana
Mesembryanthemum glabrum
crystallinum
Obeliscaria pulcherrima
Nierembergia gracilis
Œnothera macrocarpa
Lamarckiana
taraxacifolia
Salpiglossis coccinea
Phlox Drummondi
Sedum cæruleum
Tolpis barbata
12th. Echinops sphærocephalus
Stipa pennata
Crepis rubra
Silene Schafta
rubella
Viola cornuta
Propæolum canariense
Chrysanthemums, various
Schizostylis coccinea
12th. Lavatera trimestris
Mirabilis Jalapa
Nasturtium Tom Thumb
Matthiola annua
Statice formosa
Limonium
latifolia
Salvia Horminum purpurea
Convolvulus major
Tagetes patula
erecta plena
Leycesteria formosa
Coronilla Emerus
Achillea compacta
Asperula odorata
Aster ericoides
lævis
Amellus
Campanula carpatica alba
pumila
Centaurea candidissima
Aubrietia deltoidea
Gazania splendens
Geranium sanguineum
16th. Gnaphalium lanatum
Helianthus annuus
multiflorus
Lamium aureum
Oxalis Bowieana
floribunda
Lilium lancifolium album
Hypericum calycinum
Koniga maritima variegata
Linum alpinum
Santolina alpina
incana
Tritoma Uvaria
Phlox decussata
Stenactis speciosa
Plumbago Larpentæ
Viburnum Tinus
Cydonia japonica
Veronica speciosa
salicifolia
Andersonii
Aster cordifolius
Alyssum maritimum
saxatile
Calceolaria pinnata
Ruby Bicolor
Aurea floribunda
Ionopsidium acaule
Jasminum fruticans
Lavandula Spica
Linum flavum
perenne
grandiflorum
20th. Anagallis grandiflora
Breweri
Arbutus Unedo
Helichrysum album
Cuphea platycentra
strigillosa
Gaillardia picta
Digitalis aurea
Antirrhinum majus
Lathyrus superbus
latifolius
Dracocephalum sibiricum
26th. Gynerium argenteum
Amaranthus tricolor
Ageratum mexicanum
odoratum
cæruleum
Calandrinia umbellata
Anchusa sempervirens
italica
Brachycome iberidifolia
Calliopsis Atkinsoni
Drummondi
Datura Stramonium
Coronilla glauca
Lobelia fulgens
St. Clair
Rose Gloire de Dijon
Crimson China
Verbena venosa
pulchella
Zauschneria californica
Salvia bicolor
speciosa
fulgens
Dracocephalum canariense
Centaurea Cyanus
Bidens atropurpurea
Zinnia elegans plena
Delphinium Consolida
Ajacis
Reseda odorata
Mimulus moschatus
Briza maxima
Amaranthus speciosus

—M. H., *Acklam Hall, Middlesbrough-on-Tees*.

BUDDING VINES.

THIS practice I can strongly recommend as the best plan of working Vines both as to neatness and quickness of results.

This method has been adopted by Mr. J. Sheppard, of Wolverstone Park, for some ten or twelve years with good results; he has two large vineries there, and I believe all the Vines are

worked in this way. I witnessed the budding of one Vine about three or four years old: the bud was taken from a piece of half-ripe wood and cut in the same way as a Rose bud, only leaving a small portion of wood on the bud; then the bark of the Vine close to where the latter entered the house was carefully raised, the bud put in, and bound up with a piece of matting. This was done about the time the Grapes were colouring on the Vine in which the bud was inserted, and the bud remained dormant till the Vine was started in the spring, when it grew and made a rod the same year as thick as one's thumb, and from 12 to 14 feet long. This mode of working Vines can be practised without any loss, as you can have a crop of Grapes on the old Vine at the same time, and when the young rod arrives at a bearing state the old one can be cut away and the young one be left.

Whether this is an old or new practice, Wolverstone is the only place where I have ever seen it pursued, and I have spoken to many gardeners on the subject, and I have never met one as yet who had heard of it or seen it. No doubt there are plenty who have had more experience in budding Vines than I have had, and I can only answer for budding two Vines, and both successfully. I do not know if this is the mode adopted by Mr. Stevens, but should like to see a description of his system in your paper.—J. L., *Higham Court.*

ROYAL HORTICULTURAL SOCIETY'S JANUARY SHOW OF FORCED SHRUBS.

I much need to know why do not the Committee of the Royal Horticultural Society issue their schedules at an earlier date? Some time ago an advertisement appeared in "our Journal" stating there would be a show held on the 19th of January for "forced Shrubs." I think it is, therefore, quite time that we should have the details of this exhibition, as any one desiring to exhibit on that occasion ought, I should think, to be now preparing his plants for blooming, and how is he to know what to prepare? Supposing, for instance, that I wished to exhibit, and that I had prepared three Rhododendrons, and had bloomed them well, when the schedule arrives I find that I cannot enter my plants because six are required. This would be very aggravating, and I think the case I have stated is not at all an unlikely one to happen. Again, we do not know whether amateurs will be invited to compete or not. In fact, we know that a show is to be held, and that is about all, and we are within six weeks of the time. Not only would exhibitors benefit by an earlier announcement of the Society's intentions, but the Society itself would receive a large benefit, as it would have a better show. The Committee may say, perhaps, "We cannot yet make arrangements for next summer, and our arrangements are all included in one schedule." Then I say, Let us have two: a spring schedule and a summer schedule; this would overcome the difficulty.—A Subscriber.

BOILERS AND BOILING.

Gardeners know that fire applied at the top of a boiler will not heat the water; they unjustly blame the fire for not doing so. Mr. Peach declares it does heat the boiler: perhaps it does, but it certainly does *not* heat the water to any extent. Mr. Peach compares a boiler with an oven, this proves he did not reflect. Water is boiled by convection—that is, as soon as the fire is applied underneath a boiler containing water, the hot particles of water ascend and the cold particles descend until the whole is heated. Water being a bad conductor of heat, it is practically impossible to boil it by putting a fire above it. Science and practice have proved the relative value of heating surfaces to be—

Horizontal surfaces above the flame	1.00
Vertical	0.50
Horizontal surfaces beneath flame	0.00

—(From Molesworth's "Engineers' Pocket-Book".)

I should advise all persons interested in this subject to read Tomlinson's book on "Warming and Ventilation."

As to the setting of any boiler, the furnace should be high, as this is favourable to combustion. If the boiler is close down on the fire it chills the gases evolved during the combustion of the fuel, and they pass off unconsumed. The fire-bars should extend beyond the front of the boiler; in other words the front end of the boiler should be at least 1 foot away from the furnace door.

I do not exactly comprehend what Mr. Peach means by "the feed-pipe, too, should be one of large diameter, as the pressure on the boiler is inversely proportionate to the square of the radius or diameter of the pipe." This is a mistake, the pressure depends on the height of the pipe irrespective of its diameter. For instance: a pipe 34½ feet high filled with water would cause a pressure of 15 lbs. on the inch to be exerted on the boiler to which it was attached. Were the pipe 1 inch, or were it 20, in diameter, the pressure would be the same on the inch. For rough purposes it may be said the pressure per inch on the boiler is equal in pounds to half the height of the feed-pipe in feet, when such pipe is filled with water. By increasing the pressure, the boiling point or temperature of the water at boiling is increased, and, of course, the consumption of fuel.—John Woolfield, *Soho, Birmingham.*

AMERICAN BLACKBERRIES.

Your correspondent "Rubus," in the Journal for September 16th, must have been unfortunate with his Lawton and Dorchester Blackberries, if they were not so fine as the wild English species. Here the Lawton is at least four times as large as the average English fruit, makes a very handsome dish, and when thoroughly ripe the flavour is excellent, quite different from the flat insipid flavour, or rather want of flavour in the English sorts. I had not formed a favourable opinion of Blackberries in general previous to tasting them here, but can now say that although mine is not a juvenile taste, they are a capital fruit both raw and cooked, and I have not heard of its being necessary to mix Crabs or wild Apples to improve the flavour in tarts and puddings, which I have seen done in England.

I recollect a short time ago reading in a gardening periodical that the fruit of the Prickly Pear was sold for dessert in the American market. According to this showing, the American people are in the same state of civilisation as the ancient Britons, which we should scarcely expect to be the case when excellent Peaches can be bought at 2*s.* 6*d.* a-bushel, Apples at less money, Strawberries at 2*d.* the quart, Pine Apples at all the fruit stalls at 1 cent. or less than a halfpenny per slice, and Bananas at the same scale. I am anxious to know the percentage of young folk in England who taste all the above fruit, to say nothing of eating their fill of them, and not once but continually.—James Taylin, *South Amboy, New Jersey, U.S.A.*

TOMATOES IN ILLINOIS.

The sons of a labouring man in this parish, who are settled in Illinois, U.S., in writing to their parents sent them some Tomato seed, and in offering a few of them to me they brought the letter for me to read. It has occurred to me that you might like to insert in your Journal what these young settlers think of the Tomato, and their way of cultivating it in their adopted country. They say—"Tomatoes are very nice to eat; we like them as well as Peaches; they are good to skin them, and sliced up and sprinkled with sugar to eat at table like Peaches. They are good stewed-up with pepper and salted. We like to pick them off the vines and eat them out of hand, but most people do not like them except for table use. You sprout them in a box like Cabbage, and set them out 3 feet apart. The vines grow like Potato-tops. The fruit on the vines is nearly as large as your fist, and red or yellow when ripe."—W. B. Capern, *The Vicarage, Draycot, Weston super-Mare.*

PRINCE OF WALES POTATO.

I have grown this Potato for several years, and it is a great favourite of mine. When I first became acquainted with it my ground was in a very unfit state for gardening, but being persuaded by a friend of mine I purchased 7 lbs. of seed. I prepared a piece of ground, and planted the seed on May 27th, 1865, and took up the produce about the middle of September. To my great surprise, when I weighed it I had somewhat more than 2 cwt.; I never saw such a yield before, and some of the tubers were very large. I have continued to grow this variety every year since, and although it has not yielded as it did the first season, still it is the most productive of any second early Potato I know.

Prince of Wales Potato has one disadvantage—it is rather subject to disease, but if the tubers are lifted as soon as the haulm begins to decay there will not be much to complain of. The flavour is not quite so good as that of Myatt's Prolific Early Ashleaf Kidney, not being quite so dry. I planted this

year a large breadth of the Prince of Wales by the side of a quarter of an acre of Myatt's, and the produce of the former was more than as much again that of the latter, although the ground was treated alike in both cases.—E. Feazey, *Balsall, Coventry.*

GRAPES WITHOUT FIRE HEAT.

In April, 1865, against a wall facing south by east, I erected a lean-to Vine house after Paxton's principle, upon 4-feet brick piers. The house measures inside 21 feet by 11, and is covered with 11-feet glass sashes. The whole border (10 feet wide outside and 11 feet within) was first covered with 1 foot thick of brickbats, broken stones, and hard mortar, and afterwards up to the piers, and sloping inwards and outwards, with common garden soil. At the end of April and beginning of May I planted eight Vines inside, nearly on the surface, and covered the roots of each with a small quantity of powdery, dry manure. The kinds were White Frontignan, two Black Hamburghs, Grizzly [Red] Frontignan, Lady Downe's, Buckland Sweetwater, Foster's White Seedling, and Trentham Black.

In 1866 I only had a bunch from each; in 1867 about ten bunches from each; and in 1868 I had an average of twenty from each, the greatest weight being 2¾ lbs. This year I have picked 203 bunches, and only had two red Grapes on the Black Hamburgh and two on Lady Downe's. I encourage as much leaf as possible, thin early, and my ventilators at each end at the top have not been closed since March. I use the syringe freely, except when the Vines are in bloom, and give abundance of air whenever practicable.

The Grizzly Frontignan this year was excellent, with berries larger than usual, and very little shanked. The White Frontignan and Buckland Sweetwater ripen first, beginning about August 20th. Many bunches of the Buckland Sweetwater were upwards of 1 foot long, but, being a light Grape, none weighed more than 1 lb. I gathered the Lady Downe's yesterday (November 30th), to keep for Christmas, also two bunches of Foster's White Seedling, which hangs well.

Being within two miles of the sea, I cover the outside border 6 inches deep with seaweed early in October, rake it off in April, and then fork thinly in a coat of rotten manure. The inside border also has a slight manure-dressing.—W. K., *Angmering, Arundel.*

FLUE-HEATING.

I am glad that the very able writer of "Doings of the Last Week," in referring to boilers and hot-water heating, did not omit the still useful mode of doing so by the "old flue," which as a heating agent has been often unduly disparaged, considering the long and good service it has done in bygone years, and still continues to perform in many places; indeed it is a problem now amongst many well versed in the matter whether heating by this means has not been too suddenly abandoned. Certainly, at the present day, the hot-water apparatus manufacturer's calling has many professors, while a really good flue-constructor is not easily found, so that when an economical gardener or amateur wishes to convey the smoke from his furnace in a horizontal direction he has much of the duty of giving directions, if not of performing the actual work, thrown on his own shoulders. And however cheaply glass structures may be erected, it is very unpleasant to one who has just had a house put up to be told that he must expend nearly as much as it has cost him to have it heated. This is no unusual case, as the hot-water apparatus, however economically erected, constitutes an expensive item in the heating of small or single houses. Where there are a number of houses, the cost is proportionably much cheaper. Still, many of the most ardent votaries of gardening can only afford one house; and to keep the frost out is a matter of importance, as, unless this be done, it is next to useless. I was, therefore, much pleased with "R. F.'s" description of a cheap flue, and I do not think he will quarrel with me for describing a somewhat similar mode of heating adopted here many years ago, which has answered exceedingly well, and which, I think, is suited to all similar places where only a moderate warmth is wanted. Where coals are cheap I am not sure whether it will not compete in utility and economy with the most skilfully-constructed hot-water apparatus, if applied to forcing houses and the like.

About twelve years ago two plant houses were put up here for ordinary greenhouse plants, and it being thought at the time that some future alterations might occasion their removal, an expensive hot-water heating apparatus was not thought desirable if it could be avoided; recourse was therefore had to a flue, but instead of the square brick flue described by "R. F.," socket pipes were put in on the straight lines, and ordinary brickwork at the turnings. The pipes were 12 inches in diameter inside, and 30 inches in length. A slight foundation was put in at the joints only, the pipes in other respects being clear of the ground. This pipe flue has been in use ever since, and seems likely to last as long as can fairly be wished; it has been once or twice cleaned out by taking off the covers of the brickwork corners, which are more convenient than bent pipes would have been there. The pipes being only about 1½ inch thick, heat quickly, and answer every purpose required. I ought also to state that they are made of cement, part of them being of Roman and part of Portland cement. The latter kind, I am told by a skilful maker at Maidstone, will endure almost as much heat as firebrick; certainly they answer their purpose very well in my case, and I would strongly recommend them to all who require a house heated cheaply. The price of the Roman cement pipes at the time they were purchased I believe was 1*s.* 1*d.* per foot run, and that of the Portland cement pipes 1*s.* 6*d.* The setting is a very simple affair, the joints fitting into each other, and requiring but a small quantity of cement to make them smoke-tight, and the appearance is good. As cylindrical pipes for draining purposes have superseded the horseshoe-shaped tiles of earlier make, as well as the brick and stone drain, so I expect the pipe flue will in like manner predominate over the square one where flue-heating is adopted.—J. Robson.

WATER RENDERED CHALYBEATE.

This is mentioned in the number of October 21, page 321, and I write to state that some years ago I substituted an iron for a wood (oak) pump. The iron, however, had not been down long before it affected the water, and I replaced the pump again with an oak one. Wood pumps will only last a certain time, and the "trees" often prove, or become, defective from other causes than actual decay; they are also cumbersome to lift and repair. I have now for some years, whenever a new pump has been required at a farm house, put down a lead one, and I have used several. There has never been any complaint about them; they cost less than wood, and are practically imperishable. I am aware that some people consider lead deleterious to the water, and there is no doubt some water does appreciably act upon lead, but this is rather the exception than the rule; and it must be borne in mind that water from a lead cistern, where there is a large surface of lead exposed to a small and stagnant body of water, is not the same thing as the surface which a 3-inch pipe would expose to water constantly renewing. My present residence is now, and has been for many years, supplied with water conveyed by a lead pipe, and being from a reservoir considerably above the house, the pipe is always full, and the water stationary when the taps are not used. The water is remarkably pure and good. Old lead, too, when done with, is of considerable relative value to the original cost.—V.

ENTOMOLOGICAL SOCIETY'S MEETING.

The second meeting of this Society was held on November 15th, the President, Mr. H. W. Bates, being in the chair. Amongst the donations to the library announced by the Secretary, was the fifth volume of Gemminger and Harold's Catalogue of Coleoptera, and the third volume of the Royal Society's great Bibliographical Index.

Mr. F. Smith exhibited on the part of Mr. Edwin Brown, of Burton-upon-Trent, a very fine species of Locust, recently captured in the neighbourhood of that town, and which was found to be identical with an unnamed species in the British Museum, from Northern Bengal. He also exhibited a series of specimens illustrating the economy of Rhipiphorus paradoxus, a curious Beetle which resides as a parasite in the nests of the common Wasp. In a paper in the last number of the "Annals of Natural History," Mr. A. Murray had endeavoured to prove that this Beetle only took up its abode in the Wasp's nest as a retreat, and not with the view of feeding upon the Wasp-grubs or pupæ; but the late Mr. Stone had worked out the entire history of the parasite, and had found its larva with the head completely immersed in the body of the Wasp larva, which was sucked dry within the space of forty eight hours, the parasite growing as rapidly. Specimens in this position were exhibited by Mr. Smith. The late Rev. F. W. Hope had also made an observation, which showed the parasitic connection of the insect with the Wasp, to the effect that amongst the Rhipiphori certain specimens were found of a gigantic size, and these had been reared in the enlarged cells, and had fed on the much larger grubs of the queen Wasps. Professor Westwood also cited the observations of

the late Rev. Lansdown Guilding upon Horia maculata, the larva of which (as shown in one of Mr. Guilding's drawings, which had not been published with his memoir), feeds upon the larva of Xylocopa.

Mr. Pascoe exhibited a number of new Heteromerous Beetles, collected in Australia by Mr. Masters, including a species of Helæus, covered during lifetime with a white secretion, which had been considered by some botanists to be a fungus, but Mr. Wallace thought it extremely doubtful that such growth should have taken place whilst the insect was alive, thinking it more probable that it was an animal secretion, like the pollinosity on certain species of weevils.

Mr. Briggs exhibited a fine specimen of the very rare Moth, Deiopeia pulchella, taken on the 1st of October last near Folkestone. During flight it completely resembled Geometra dilatata. Mr. Davis exhibited a series of beautifully-preserved Lepidopterous caterpillars, together with a case containing a complete series of illustrations of the economy of the Goat Moth.

Mr. Albert Müller made some observations on the peculiar scent emitted by Cynips lignicola and another Oak-gall Fly when handled, which he considered served as a preservation against the attacks of birds. Mr. Salvin read a memoir on Clothilda, a genus of beautiful American Butterflies, of which he enumerated and exhibited six species. The President read a memoir containing descriptions of a number of new species of Longicorn and Lamellicorn Beetles, captured at Chontales, Nicaragua, by Messrs. Belt & Janson. A paper was also read containing descriptions of new exotic species of Hispidæ, by Mr. Baly.

Some observations on the vast swarms of Syrphideous Flies, observed during the past autumn at Ramsgate, Bournemouth, Walton-on-the-Naze, and other parts of the southern and eastern coasts of England, were made by Messrs. Horne and Dunning. After considerable discussion it appeared to be generally considered that these aphidivorous flies, as well as the great swarms of Lady-birds noticed about the same time, had been reared in this country, and had not flown across the sea from abroad, the vast numbers of Aphides previously observed being sufficient to account for the proportional increase in the numbers of their enemies. Mr. Janson especially mentioned that an Apple tree in his garden in the suburbs of London, which had been completely covered with the American blight (Aphis lanigera), was completely cleansed of these insects in three or four days by flights of Lady-birds, myriads of which had visited the tree in the early autumn.

NOTES AND GLEANINGS.

Mr. William Melville, so favourably known for his successful raising of new varieties of vegetables and Grapes, is leaving Dalmeny Park Gardens, after presiding there thirty years. He is only sixty, and in good health, but the Earl of Roseberry has settled on him a life annuity of £60, and he intends to devote himself to his favourite pursuits in the island of Jersey.

—— At the meeting of the Royal Horticultural Society, to be held on Tuesday, December 21st, prizes of £3 and £2 are offered by the Rev. G. Kemp for the best winter dessert of Apples and Pears, three dishes of each.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Continue to trench, dig, and ridge-up every piece of spare ground when frost permits. This is particularly to be observed in soils approaching a clayey nature. If frost continue let the manure necessary for the whole of the spring cropping be wheeled out, laying it in heaps either on the spot or as near as possible to it. That portion not required for immediate digging-in should be piled in small mounds and covered with soil to prevent loss.

FRUIT GARDEN.

The principal work in the fruit department is pruning. Planting ought to be completed; if not, unless the weather be very mild it will be better to defer it until spring. The directions previously given with regard to pruning bush fruit trees are still applicable. If dressing with hot lime and soot when the trees are wet were more attended to, we should not hear so much of the ravages of birds among the buds, and I would recommend the application of these substances also to standard Plum trees wherever practicable, as they not only keep the trees free from moss and lichen, but assist in the extirpation of those insects in the search for which birds commit such ravages. Dressing with fresh-slaked lime is still more imperative as regards Apple trees which are situated in damp localities, where mosses and lichens spread with great rapidity, and, if not checked, are very injurious to the well-being of the trees, besides affording a secure harbour for numerous insects during the winter. The effectual remedy, however, for all such evils is thorough drainage. Continue the pruning and training of wall fruit trees in open weather; also prune and dress pyramid and espalier Apple and Pear trees, after which apply top-dressings of compost, and fork them in slightly so as not to interfere with the roots. This operation is very necessary where a regular system of root-pruning is persevered in, because one object in root-pruning ought to be to keep the roots near the surface, and these will require to be often encouraged by the addition of fresh compost, otherwise there will always be a tendency to push their long feeders out of bounds in search of food. Do not forget former remarks on top-dressing the ground about orchard trees, which are also all the better for such attention. Gishurst compound in the form of a strong lather is also recommended for the same purpose. Make cuttings of choice Gooseberries and Currants, also Honeysuckles in the same manner, and Irish Ivy for covering naked fences. Look over fruit and other stores frequently.

FLOWER GARDEN.

Those who are fortunate enough to have the command of a gravel-pit should secure a good supply of gravel whenever the weather is suitable for the work. See, also, to having plenty of soil prepared for striking cuttings in the spring, and have draining materials for pots prepared and sorted out in sizes. If any of the more tender kinds of Roses are yet unprotected, some covering material should be applied at once. Dahlias temporarily placed roots upwards under cover to dry, should now be carefully stored for the winter. See that coarse-growing plants which may be encroaching upon their weaker neighbours are reduced so as to occupy their proper places. Gladioluses may still be planted, and most kinds of bulbs are better now in the ground than out of it. For Gladioluses choose a warm thoroughly-drained situation; work the soil well by deep digging, and add plenty of decayed manure; elevate the bed or patch a few inches above the general level, plant the bulbs 5 or 6 inches deep, and 6 inches apart, surrounding them with 1 inch of sand before covering with the soil, and protect during the winter against excessive wet and frost, by a thick layer of sawdust, old tan, dry litter, an old carpet, thatched frame, or tarpaulin. The last three coverings must be removed during favourable weather, and the other coverings entirely cleared off when the plants appear. The tops of standard Roses worked on ordinary stocks may be protected by wisps of straw bound amongst and over their branches, or by light canopies firmly fixed. Beds or masses of Hybrid Perpetual, Tea-scented, and other Roses should have some porous material strewed amongst them to protect the collar. Cocoa-nut fibre refuse, and exhausted tan from the Pine-pit clean-riddled, using the coarse particles, are very good; even a coat of half-decayed leaves will answer the purpose. Four or five inches of such material may keep them safe in the event of a severe winter. If it is desirable to protect the tops altogether, mats thrown lightly over them will suffice, taking care on the breaking-up of frost to expose the trees cautiously, and not until after they have thawed. As there will be comparatively little to do at present, any spare time will be well spent in going over the stock of plants in pits for next season's use, removing every decaying leaf, and where the surface soil has become green removing this and top-dressing with sandy loam. There is nothing so unfavourable to these plants at this season as damp; therefore, take every favourable opportunity of admitting fresh air.

GREENHOUSE AND CONSERVATORY.

If the weather should continue frosty the conservatory will require great care in its management. Atmospheric humidity cannot by any means be entirely dispensed with, yet this, if unskilfully applied, will produce drip, which is most prejudicial to the delicate texture of Camellia blooms and other gay plants. The best plan is to keep as low a temperature as can possibly be allowed—say from 40° to 45° at night, and to give a little air at the back and front all night, if the weather be favourable. The front air must be very moderate, or the atmospheric moisture, instead of passing quietly away by the back apertures, will be condensed as it rises. With a good roof-covering, in the case of small conservatories, 40° would be sufficient, and then there would be atmospheric moisture enough at all times without the special application of water. See that young stock in mixed greenhouses, such as Heliotropes, Scarlet Pelargoniums, Cyclamens, and other flowers grown especially for winter, have light situations and regular attention as regards water. Let Cape Heaths have close attention as regards watering; if, unfortunately, they stand near flues or pipes, they may become suddenly very dry. Keep up a quiet ventilation day and night if possible, let the air steal in moderately, and dispense with strong fires. Do not water Pelargoniums until they are tolerably dry, and take care to fumigate frequently and slightly. This is a good time to introduce into the conservatory forcing-pit the follow-

ing plants, provided they have received the necessary treatment during the summer—viz., Rhododendrons, Azaleas, Persian Lilacs, Sweet Briars, Moss and Provence Roses, Crimson Perpetual Roses, Ledums, Kalmias, Anne Boleyn Pinks, Wallflowers, Sweet Williams, and Dutch bulbs. Unless, however, they are in proper trim it will be labour in vain, and no mode of forcing nor form of pit can compensate for this. The great secret, if the heat wholly consists of fermenting materials, is to keep down accumulating damp and mouldiness by almost constant ventilation, increasing the linings in order to raise the necessary temperature. Those who possess properly-heated houses or pits will, however, as a matter of course, pursue a somewhat different method. In pruning and training climbers in these houses, some regard must be paid to the time when it is desirable the plants should bloom. Thus, with stove climbers not required to flower before autumn, pruning may be deferred for some time, but for earlier display it should be done at once. Passion-Flowers, Bignonias, and similar plants which make long annual shoots, should only have their branches thinned and slightly shortened, while others, as Combretums, may be spurred-in. Kennedyas will soon be showing bloom, and what training they require should be done at once, but the pruning of these should not take place until after they have bloomed. When Orange trees are grown to decorate the flower garden in summer, care should be taken to prevent their pushing in winter, and this more especially if the trees are in a dark-roofed house. When growth occurs under these conditions the leaves have always a thin flabby appearance, and soon turn brown after the plants have been set out of doors; whereas, if growth is prevented till the trees are in the open air, the foliage will bear any amount of sunshine.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Cauliflowers.—Those laid by in an earth pit, coming in well, have had to be watched, and care taken to catch rats. If the rats would take a head and use it up, it would not be so bad; but one intruder will most likely go over a score of heads and render them more or less unsightly, and even if the parts nibbled by them are neatly cut out, it is not pleasant to think that you are partaking of the leavings of a rat. However, to partake of many things with a relish, it is quite as well not to be too inquisitive as to the processes through which they have passed. In a wet day we managed to fresh glaze the moveable tops of our hand-lights, though the many-cornered pieces make it a troublesome job. These would be more expensive than they are, only much small glass can thus be brought into use. We lately stated that small boxes would be better in every way. The main point now with all plants under hand-lights, is to keep them from soaking rains until the days lengthen in spring. We have tried keeping young plants in frames, in small pots, and protected at the foot of walls and planted out; but on the whole, placing small plants under hand-lights late in autumn has been the best for affording us early cuttings in May. All such plants can scarcely be kept too hardy until the sun gains strength. Full air is therefore always given in mild weather, unless it be wet, when the top is merely lifted up a little. A little frost does them no harm. If the leaves are frost-crusted a little, we have had Cauliflowers covered up in continued frosty weather for weeks. Provided there can be no growth, continued darkness will do them no injury. A night of three weeks or a month in duration will not affect them more under these conditions than one of the usual length in winter. In the good old-fashioned winters, when we used to have keen frost for a month at a time, on uncovering such Cauliflowers, we did not let them have the full sun for a day or two, and made sure they were nicely thawed before uncovering. In such keen frosty weather, accompanied often with sunny days, those who consider light to be everything, would uncover their Cauliflowers to let the sun act upon them, and thus, from being excited, they would be more likely to suffer from the keen frost at night. Under these circumstances, provided the plants were first slightly crusted, it would be better to let the covering remain, to keep out alike the heat of the sun and the intensity of the frost. Under other conditions, where a low temperature is secured, but where crust-frosting, however slightly, would be dangerous, letting in a little sun heat and light would often be useful, even for raising the temperature a little.

When we want Cauliflowers very early, we thin the plants under glasses carefully to four or five in March, encourage them by sun heat, giving less air, shutting-up early, and protecting in cold nights, so as to have the plants large and strong before being compelled to spread them out by raising the glasses on bricks, &c., at the corners.

We have scarcely had to replace a young plant in this season of grubs and slugs, and this we attribute partly to carefully forking over the ground, and looking for enemies narrowly, working into it some hot burnt earth and ashes, planting when these had time to cool, and using rough road drift for a slight surfacing. Those under hand-lights now, were planted openly in squares, and have not been long covered. Those of our readers who have no glasses may have Cauliflower early by potting small young plants singly in small pots—say 3-inch pots, keeping them under protection, giving the plants more room after the turn of the day, and planting them out in finely-pulverised soil in the middle of March. For early Cauliflowers we prefer small young plants in October, and enticing them on with sun heat and protection after March. When we had more time we used to have hoods made of straw, with four pieces of hazel rod to keep the square for the bottom of the glass, and these were easily lifted off and on.

As stated above, *damp* is the great evil to be guarded against as respects growing plants; in fact, now damp is the great enemy to all plants under protection, and in such changeable weather as much air as possible should be given to plants under glass in pits and frames by tilting up the sashes and not by sliding them.

Every hole and breakage in the glass now tells most injuriously, because such a breakage lets in the water that falls on the glass above it. Tilting up lights is by far the best mode of air-giving in all weathers; but sliding the sash is so much more easy in general, that it will be practised if not countermanded. Even in a cold pit in a cold day, tilting at the back does not fully expose the plants at the back, and the cold air rushing in is met by the warm air going out, and is thus mollified before reaching the plants. This is of still greater importance when the plants are growing in artificial heat. In hotbeds heated by dung, we have known numerous disasters arise from carelessly sliding the sash down over a lining of rank dung in front. The fumes of the dung were intercepted by the overhanging sash, and passed in among the tender plants in the bed.

For Lettuce, Endive, Sea-kale, Rhubarb, and Mushrooms, see remarks a few weeks back.

Mushrooms.—Our first piece in the lean-to house is doing very well, though it became rather cold after spawning, but helped, no doubt, from being on a shelf, and some warm droppings placed beneath it. The second piece is beginning to show. A third large piece became rather hot after spawning, and was carefully watched. If it had become hotter we would have taken out the spawn. Throwing a little earth over the surface, and beating firm down, arrested fermentation; and finding the spawn was still safe, and the heat remaining uniform, this piece was also earthed-up, well beaten, watered on the surface, and a clean spade drawn firmly over it, to leave a smooth surface. We have frequently stated how to obtain moderately thin Mushrooms for frying, and thick fleshy ones, that are with difficulty cooked up to the centre, but are excellent for chopping up.

From what we can learn of many of our new beginners' failures, they are chiefly owing to the spawn being put in material too wet or too hot. The temperature mentioned at page 416 may be considered in every way safe. If the material of a bed is very dry, the Mushrooms will be poor; if wetter than desirable, we wrap the spawn in a good handful of dry litter. Much shaking and working of the material, if at all rich at first, causes it to part with a large proportion of its nourishing qualities. We have never had better Mushrooms on shallow beds, than when we brought the droppings every day from the stable, and began making the bed at once, adding to it every day. The layers were so thin, that, when moderately beaten, they never heated violently.

FRUIT GARDEN.

Proceeded, as opportunity offered, with pruning fruit trees, making arrangements for planting what could not be done earlier in the autumn, and watered with warmed water some trees planted at the end of October in a Peach house, which we shall want to start presently, merely keeping the frost out on account of the other plants in the house. In the very changeable weather—rainy, frosty, foggy, and snowy—we were glad we had all our Strawberry plants under some kind of protection from excessive wet and severe frost.

We have had an inquiry from an esteemed correspondent,

who is anxious to grow a few small trees of *Peaches and Plums in pots* in a small glass house which he has put up; and he thinks he could manage very well, only he cannot have his plants until the middle of January, and he must, from the expense of carriage, have them sent without their pots, and as light as possible to be safe. He therefore dreads he will lose a season from not having them sent in the autumn, as Plums and some Cherries must be lifted out of the ground, though furnished with fruit buds. Of course it would have been better if such plants had been potted early in autumn—better still if the plants were sent in the pots in which they had grown the previous summer, so as to be well established. If, however, he obtain good plants even later than stated, there is no reason to despair, as he is merely going to place them ultimately in an unheated house. These simple modes which we have followed will almost be sure to be attended with success. The first point as respects trees raised from the ground depends much on the fruit-tree merchant and those he employs. Such trees should be raised carefully—not pulled up—the roots damped with the rose of a watering-pot, and then packed firmly in damped litter, the tops, of course, being merely secured in the usual way. Such trees, when they arrive, should be potted, choosing pots merely large enough. If the roots are somewhat damp, proceed at once. If, notwithstanding the care taken in packing, the roots seem dry, and have little earth about them, place them for a few minutes in a tub of water at about 65°. In potting, pack the roots neatly, and firm the soil well. Before this is done, or whilst doing so, make up a rough simple hotbed, say from 12 to 15 inches deep of litter, tree leaves, or any rubbish that will raise a gentle heat of from 75° to 80°, and in this plunge the pots to the rim, with a few leaves or some litter over the surface. Watch the bed, and if the heat rise higher than 80° raise the pots, or pull the material of the bed away from their sides. If it fall to 60° or 65° turn it over, or merely add a few inches more to the surface. Suppose you do this in the middle of January, the bed will have come down to much the same temperature as the earth will be in your unheated house by the first or second week in March, and if these points have been attended to, on examining the pots you will find fine, vigorous, fresh roots before even there be much appearance of growth in the top of the trees.

One great element of success is thus gained—the roots are made to move in advance of, and not after the motion of the buds. The great advantage of autumn planting and of autumn potting in such a case as this, is that the heat in the ground acts much in the same way as the above slight hotbed would do. Planting, and in such a case as the above, potting in spring in the usual way, exposes the plant to the liability of having the buds excited by the growing heat of the season, whilst the roots have scarcely begun to move to sustain the necessary correlative action.

We allude to this helping with a mild hotbed the more prominently, as the plan will succeed with all shrubs, Roses, &c., and even herbaceous plants that are lifted from the ground to be forced. Two things are essential to success—first, the heat given should never be so high as to weaken the roots, and though, in cases of forcing, the roots when growing will not suffer from going into a temperature a little higher under glass, when no forcing is attempted the temperature in the bed should have fallen as low as the earth of the house to which the plant is taken, so that no check may be given to the fresh roots in moving them from a warmer to a colder position.

One other condition is necessary to success, so far as the occupiers of this open-air slight hotbed are concerned, and it is that excessively bright sun should be kept from the shoots and buds with a little shading—say evergreen boughs, but in all dull and coldish weather, the freest exposure should be given, as the later in such circumstances the flower buds open, the more certain will you be of a crop the first season.

The retarding of the swelling and opening of the buds will be helped by free air; and this will be promoted still further if the tops be whitened with limewash, which will fall off partly as the buds swell. We have not yet, as a body of observers, made so much of *colour* as we might have done. Some time ago a philosophical enthusiastic amateur gardener was next to horrified at seeing a row of bush Pear trees as white in the beginning of March as if covered all over with snow, partly for the purpose of deterring birds from the buds, as white is rather distasteful to them. "Why, Mr. F., you will burn and scorch up buds and shoots alike! I lately had all the leaves of my Cucumber plants near the top of that steep-roofed lean-to house parched and scorched up, because, for the sake of neatness, I could not get the wall made too white. Nothing could stand the terrible heat of that white wall, and see if you do not be served in a similar manner." Our clever friend for a moment massed together in one things that differ. It was not the heat of or on the wall, it was the reflection of the heat of the sun from it, and that in a confined atmosphere, which did the mischief. Our trees would actually be kept cooler than if robed in their natural dark brownish livery; the reflection of the heating rays from them would only help to warm the neighbouring atmosphere.

We want more facts and proofs as to how far this may act in the neighbourhood of fruit trees in the open air or against walls. If our ideas should be right, it is just possible that two or three lines of the "Science and Practice of Gardening," which we recommend to all who aspire to be something more than routine workmen, may need a little modification. Be this as it may, the matter is sufficiently important to refer to again, and perhaps to justify this seeming digression that has come to our pen without previous consideration, the reason, no doubt, why so many digressions had better have remained unpenned. Be this as it may, the season has proved to us that circumstances must regulate rules and operations. However beneficial autumn planting, in this neighbourhood it could not have been done to any extent, owing to the dryness of the ground and the scarcity of water.

ORNAMENTAL DEPARTMENT.

The frosty weather, and being engaged in ice-collecting, gave us a good chance for practising the principles referred to in writing of Cauliflowers. Everything in cold pits, as Calceolarias, Roses, Cinerarias, Verbenas, &c., has been left to itself for four or five days, the covering remaining on night and day. We know the plants are cool enough not to grow, and when uncovered the long night will be to them like an ordinary one. It is very different when there is heat enough shut in to stimulate extension, if not true growth; then light for a time should be given.

Having lately referred to planting bulbs and necessary preparations, we shall leave other matters to refer to the in-door treatment of

Bulbs.—Potted a second lot, and set the pots on a dry place, on ashes covering a layer of lime to prevent worms rising; then covered over with finely-sifted leaf mould, and surfaced with fine coal ashes. Some old boards were set round them, enclosing the bulbs as it were in a box, and a cordon of tar 2 or 3 inches wide was run all round the box, so as to keep rats and mice at a distance, for if they were left alone they would soon make havoc of Crocuses, Tulips, &c. The first lot of bulbs we shall place in a sweet hotbed, when the pots are more crammed with roots. Frequently, when we have obtained bulbs late, we have brought them into flower early by the following mode:—After potting, we have plunged the pots up to the rim in a mild hotbed, with a bottom heat averaging from 75° to 78°, and a top heat in the frame or box of from 45° to 50°, by merely covering with glass, and leaving air on at top and bottom, in mild weather. The top heat was kept low so as not to bring up the flower stalk at all until the soil was crammed with roots. This plan in an emergency will give an advance of several weeks. When bulbs can be potted early, there will be no necessity for it. Of all bulbs, Crocuses will least bear forcing, and they should be potted rather more deeply than other bulbs. The Large Yellow, and the finer varieties, do very well in pots, and stand more upright and robust when the corms are covered at least 1 inch. Under no circumstances will they be better of hotbed treatment, such as a Hyacinth would delight in. Nowhere will they do better than in the window of a cottage, where the heat of the room is not too high, nor the air too close. With the Large Yellow, fine purple, blue, white, and striped kinds, an effective show may thus be made, and successions may be had for some time.

A few remarks, now, as to soil and potting. Bulbs will flower with but little assistance, merely from the support stored up in the bulb, but when so treated the bulbs would require years to recover themselves so as to bloom well again. Thus Hyacinths will bloom well in glasses with almost nothing but common soft water to help them, but such bulbs are more injured as respects the future than those grown and slightly forced in pots. Soil, therefore, is something, though not so particular a matter as many would insist upon. Any light, loamy, rich, sweet, soil will grow bulbs in great perfection. All worn-out soil should be avoided, and all that is clammy, wet, and sour. If a compost is to be made, the following is what

will answer well—three parts fibrous fresh loam, sifted through an inch sieve, one part drift or silver sand, one part sweet well-aired old cow dung or leaf mould, and if to be had one part, in addition, of small rough, not dust, charcoal. We think the charcoal gives a deeper green to the foliage, and permits of freer watering. When the flower stem is rising freely, weak manure waterings will give strength to the flower stem, and size to the flowers. When other soil was not to be had, we have potted in loam, with a third of sweet rotted leaf mould, but the sand, such as may be picked up in runs on the highway, makes all work better. All things considered, the compost can scarcely be too simple if light, sweet, and tolerably rich.

Now, as to potting and pots. When the plants are to be moved when in bloom, what are called 48's and 40's will bloom Hyacinths well, and the same sized pots will do for five Crocuses and three of the smaller Tulips. When very fine specimens of Hyacinths, &c., are wanted, the old-fashioned pots of the above size in width, but much deeper, are a great advantage, as the roots like to go down. In such deep pots the bulbs can be more deeply covered than in the common more shallow pots. Other things being equal, all these bulbs in pots will bloom and thrive better, if the bulbs be sufficiently sunk to keep them from free light and air. Even when the top of a Hyacinth bulb is exposed it will thank you to cover it, whether in a pot or glass, with a little green moss, and even that, though pretty, is inferior to the natural earth covering. These trifles attended to, if the bulbs are to be covered with ashes, &c., after potting, the more loosely and simply the potting is done the better it will be for the bulbs. All firming and squeezing the soil should be avoided. Many a fine Hyacinth bulb has been ruined by damping, or the incipient roots have turned up instead of going freely down, because the soil beneath the bulb was made immoderately firm. Proceed as follows, merely premising that the soil is in the proper state, neither wet nor dry—so wet that it will leave the impression of your fingers when you squeeze it tightly, so dry that the squeezed handful will fall to pieces when you lay it down on the potting-bench. Do not follow the common advice and fill such pots as the common size a third or so full of drainage. Give the roots all the room and earth you can. Place one convex piece of crock over the bottom of the pot, a scattering of smaller pieces over it, a little moss or chopped straw, and a dusting of soot, chiefly to deter worms, and the pot is ready. Place it on the potting-bench, and a trial or two will tell you exactly how much soil to put in to be ready for the bulb or bulbs, merely giving the pot after so filling a good stroke on the table to settle the soil, but not to firm it. With such treatment the top of a Hyacinth bulb should be on a level with the top of the pot, add more soil round the sides, and another stroke of the bottom of the pot on the bench will generally make that firm enough; if not, press it to the bulb a little with the fingers, but not downwards; a small cone of earth over the bulb completes the potting. When such pots, set in a bed, and covered with a weight of several inches of ashes, are moved to the forcing house, the bulb will be something like a quarter of an inch below the rim of the pot, and the pot will be crammed with healthy roots. When cottagers and householders merely pot a few, there is no necessity for placing them in a bed out of doors and covering them over for safety. Any cool dark place will do. In this case, though the earth should not be squeezed or firmed beneath the bulb, it will be necessary to firm it more at the sides, but not hard, and the bulb should be placed a little lower down. In their case, too, the bulbs will bloom all the better if the flower stems do not show much until the pots are filled with roots. Then, and and when the stems move, the sooner the pots are brought to and kept near the light the better. Many people would never have Hyacinths, Tulips, and Crocuses in bloom standing on mantelshelfs and out-of-the-way recesses and dark corners, if they knew what pain it gave to many of their visitors to see them subjecting the plants to a process of slow but sure decline. The pots, if placed in a bed out of doors, will generally need no watering. Those placed in cellars, cupboards, &c., must not be allowed to become dry; a moist soil, but not saturated, will encourage quick and free rooting.

As to glasses, when these are clear, clear water should be used, and fresh added as it evaporates. A little charcoal will keep it sweet. However, as it is easily done, fresh water of the temperature of the room may be given every week. The water should be soft. The base of the bulb should barely touch the water at first. In coloured glasses we have found weak clear manure water an advantage. After-treatment must be deferred, merely stating now that the chief reason why forced bulbs are much injured, is because, often from want of room, sufficient attention cannot be given to the foliage after blooming. For all plants that bloom early the foliage should be encouraged to perfect itself under glass, and then the bulbs would suffer little.—R. F.

COVENT GARDEN MARKET.—December 8.

Very little change can be noticed here, either in supply or demand, the general tone of the market having a downward tendency. The Potato trade continues dull.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	3	0	to 5	0	Mulberries .... quart	0	0	to 0	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	0	0	0	0
Cherries ..... lb.	0	0	0	0	Oranges 100	6	0	12	0
Chestnuts .... bushel	8	0	14	0	Peaches ..... doz.	0	0	0	0
Currants .... ½ sieve	0	0	0	0	Pears, kitchen .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	dessert .... doz.	3	0	5	0
Figs ..... doz.	0	0	0	0	Pine Apples ..... lb.	3	0	5	0
Filberts ..... lb.	0	6	1	0	Plums ..... ½ sieve	0	0	0	0
Cobs ..... lb.	0	6	0	0	Quinces ..... doz.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Raspberries ..... lb.	0	0	0	0
Grapes, Hothouse . lb.	3	0	6	0	Strawberries .... lb.	0	0	0	0
Lemons 100	6	0	10	0	Walnuts .....bushel	10	0	18	0
Melons ..... each	2	0	3	0	do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans, Runner ½ sieve	0	0	0	0	Mushrooms .... pottle	1	0	2	0
Broad .... bushel	0	0	0	0	Mustd. & Cress, punnet	0	2	0	0
Beet, Red ..... doz.	2	0	3	0	Onions ..... bushel	3	0	4	0
Broccoli ..... bundle	1	0	1	6	pickling .. quart	0	4	0	8
Brus. Sprouts ½ sieve	3	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	0	0	0	0	Peas ..... quart	0	0	0	0
Carrots ..... bunch	0	4	0	8	Potatoes ..... bushel	2	0	4	0
Cauliflower ..... doz.	3	0	6	0	Kidney .... ditto	3	6	4	6
Celery ..... bundle	1	3	2	0	Radishes doz. bunches	1	0	0	0
Coloworts .. doz. bchs.	2	0	4	0	Rhubarb ..... bundle	0	0	0	0
Cucumbers .... each	0	3	1	0	Savoys ..... doz.	1	6	2	0
pickling .... doz.	0	0	0	0	Sea-kale ..... basket	3	0	4	0
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	6
Garlic ..... lb.	0	3	0	0	Tomatoes ..... doz.	2	0	3	3
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	8
Horseradish .. bundle	3	0	5	0	Vegt Marrows. .. doz.	0	0	0	0

TRADE CATALOGUES RECEIVED.

James Dickson & Sons, Newton Nurseries, and 102, Eastgate Street, Chester.—*Catalogue of Forest Trees, Conifers, Fruit Trees, Roses, Ornamental Trees, Plants, &c.*

Putz & Roes, Ferdinand Jüblke's successors, Erfurt, Prussia; London Depôt, Dick Radclyffe & Co., 129, High Holborn.—*Annual Trade Seed List.*

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Flower Garden Bed (*Pa pas*).—As a bed of foliage your arrangement will look very well. In the plan we should prefer the Coleus to the Iresine, but both might be used, the Iresine filling the triangular spaces of the vandyking. We do not know the fungus by the description.

Local Flower Shows (*W. B.*).—We regret much that we cannot afford space for local flower shows. We have tried to make a selection, but no sooner did we do so than we had a crowd of reports, the writers of which joined in a chorus, "Our show was quite as good as that you inserted!"

Out-door Grapes.—In the Fruit-Committee report, November 18th, page 398, it should have been stated that Mr. Fenn ripened 342 lbs. of Grapes this year, instead of having made that number of gallons of wine.

Grapes Spotted (*J. G.*).—The berries of your Bowood Muscat are severely affected with "the spot," by which name gardeners speak of an ulceration of the Grape. It usually is occasioned by the roots failing to supply a sufficiency of sap to support the growth of the Vine and its

fruit. The roots should be kept warmer, watered with tepid weak manure water; and the surface soil removed and replaced by a richer soil. If the roots have descended into a cold ungenial subsoil, they should be raised to nearer the surface.

Protecting a Vine Border (*Amateur*).—We recommend the sheltering of Vine borders from rain from the time that the Grapes are ripe until the buds begin to swell, or from September to April, though if the Vines are started in February the covering should be removed by day when the days are mild and sunny, and replaced at night; and to admit of the border receiving moisture it should be uncovered during mild rains, but protected against cold deluging rains. In fact, the covering of the border is desirable up to May, during cold heavy rains and frosty nights.

Unripe Tomatoes (*Idem*).—We are not aware that these are of any use in an unripe state, but you may hang them in a warm and dry place, and they will in most instances ripen, and become fit for every culinary purpose.

Applying Soot to Fruit Trees (*Idem*).—In March you may sprinkle soot on the soil about fruit trees as far as the roots extend, and repeat the dressing in May. At each time the ground may be made quite black. After this it is best applied as a liquid manure, putting one peck to thirty gallons of rain water, well stirred-up before use. A good soaking of this in dry weather during summer would be very serviceable.

Vines in Pots (*Dorset*).—There is nothing on this mode of culture in the work you mention, but there is in "The Vine Manual," which you can have post free from our office if you enclose thirty-four postage stamps with your address.

Roses on Manetti Stocks (*Halcyon*).—"Your query, 'How am I to grow Roses on Manetti stocks planted a year ago?' is too general. My Roses on the Manetti stock, whether planted lately or years back, are treated thus:—They are tied to a stake, as they are open to the strong west and south-west winds. Round their base litter is now placed, and the soil is drawn over the litter like a molehill. This will preserve the roots and protect 3 or 4 inches of the wood. If the frost, which I expect will be severe in January, kill the upper portion of the wood, still the lower protected portion will break. In the spring the trees will be thinned out, cutting away all the weak wood, the strong shoots shortened, and the side branches cut to a sound plump eye. In summer, especially in hot weather, I keep the ground shallow-stirred over the roots, and deeply stirred between the rows, and I water copiously over the leaves, stems, and roots twice a-week. Orange fungus should be cut out, aphides killed by hand, and the trees should be well syringed. In February the molehills may be spread.—W. F. Radclyffe."

List of Roses (*Rosalind*).—Your list of thirty-eight Roses is so good that it is difficult to suggest much alteration. We should erase Lady Emily Peel, President Mas, Camille de Bernardin, Monsieur Woolfield, Souvenir de Dr. Jamin, Charles Rouillard, Louise Darzens, Alfred de Rougemont, Aimée Vibert, and instead of the two Mosses Laneі and Crested, we would grow one of M. Edouard Ory. This will leave ten places to fill up, in which we should plant Abel Grand, Antoine Ducher, Comtesse C. de Chatillant, Elie Morel, François Lacharme, Marguerite de St. Amand, M. Noman, Mdlle. Marie Rady, Marie Baumann, and Victor Verdier. There are, however, some other Roses which you ought to have if room can be found for them, or if any of these not discarded from the list are bad plants, as Duchesse de Caylus, Duc de Cazes, Duc de Wellington, François Louvat, Gloire de Vitry, La Brillante, Le Rhone, La France, Madame Clémence Joigneaux, Maréchal Vaillant, Prince Camille de Rohan, and Thorin. We are not quite certain whether the Rose named in the list as "Mlle. le Baronne Rothschild" is Madame la Baronne de Rothschild or Monsieur le Baron de Rothschild; the two names are rather puzzling, but Madame la Baronne is one of the finest Roses grown, a most beautiful satin pink, and ought to be in every collection.

Yucca Planting (*Sunny*).—The best time to plant Yuccas is in April or the beginning of May; but we have planted them from August to November successfully. They succeed best in a deep, well-drained, moderately rich, light loam, and in wet heavy soils are best grown on mounds or rockwork. Yucca aloifolia pendula is, perhaps, the tenderest of all the hardy kinds, and it rarely succeeds except in sheltered situations and dry soils, or in positions near the sea. It usually flowers in August. It does not flower very often, owing to the plant not obtaining a position warm enough to attain a sufficient size for flowering.

Chrysanthemums in a Greenhouse (*Idem*).—All the Chrysanthemums are hardy, and will succeed in the open ground with a little leaf soil or litter placed over them to protect them from severe frost. The duration of their flowers, however, is too often shortened by severe autumn frosts. Those you have in pots in the greenhouse may be planted out of doors after flowering, turning them out of the pots, or plunging these to the rim, and with a slight protection of dry litter in severe weather they will survive the winter. It is better to protect the plants by a frame, or place them in a warm sheltered situation for the winter.

Azalea Losing its Leaves (*C. A. G.*).—We do not think there is anything the matter with the plant. It is usual for Azaleas to lose part of their leaves at this or an earlier period, and some of the white kinds become almost leafless; but that does not affect their flowering.

Camellias for Out of Doors (*Constant Reader*).—Unless your situation is mild, and the soil well drained, you will not find Camellias succeed. They are best planted in summer after the growths are made, though plants well hardened-off may be planted in spring. Out of doors their treatment does not differ from that of hardy evergreen shrubs. Some of the hardiest are Alba plena, Bealii (Leeana superba), Donkelaari, Eximia, Imbricata, Monarch, Prince Albert, Reticulata, Striata, and Wilderi.

Sweet Jasmine Pruning (*Idem*).—The best time to prune is in spring before it begins to grow, cutting away the old wood and shoots that have flowered. All shoots not required for extension, or to fill-up vacant spaces, may be closely spurred-in to within one or two joints of their base. It is well, however, to leave some young shoots, as the flowers are finer from them than those borne by spurs. The flowers are produced from the points of the shoots of the current year.

Three Pear trees for a South Wall (*L. H.*).—Doyenné du Comice, Winter Nelis, and Ne Plus Meuris. They are late dessert Pears.

Methylated Spirit (*T. R.*).—It is sold by the druggists. It is applied by a brush to the branches on which the scale (Coccus) is fixed.

Rhododendron Stem Damaged (*W. T.*).—The standard Rhododendron Barclayanum with the wounds on the stem, "the bark off sharp and clean, without the wood being damaged," ought to be covered with clay well worked with about one-third of cow dung. Cover the wound thinly, and secure the whole with matting neatly tied on. It will prevent the wood from decaying by excluding wet, and will encourage the growth of the bark over the wounded part. The clay should be renewed as required, and in summer be covered with a little moss to keep it from cracking.

Weedy Lawn (*A Subscriber*).—You will gain little by paring-off the turf unless you have it deeply dug or trenched, afterwards picking out the deeply-rooted weeds, such as Dandelion. We would do this, and then apply the fresh soil as early as we could, so that it might have time to settle and become firm before spring. You may then level any inequalities, and having the surface in good working order, sow early in April as you propose. Anything that would kill the weeds in the old or new soil would injure the grass seeds.

Warm and Cool Greenhouse (*Devon*).—The greenhouse with a temperature of 35°, which we presume is the minimum night temperature, will be suitable for all kinds of hardwooded plants, Cinerarias, and Calceolarias, also Pelargoniums and many of the hardiest of the Cactus tribe, no water being given them except to keep them from shrivelling. The Lantanas, Solanums, Tecoma and Mimulus, with all kinds of bedding plants well rooted, and not recently potted, would be the better of the cool house rather than the warm one at 45°, if they be kept dry. The other house at a night temperature of 45° will answer for Eucharis and many cool stove plants—as Dracæuas, &c, they being kept sparingly watered. It is well to have in the warm house newly-struck Pelargonium cuttings, also newly-potted plants, until they become well rooted and established; then they should be removed to the cool house.

Wintering Fuchsias (*Idem*).—The Fuchsias will do well in the harness-room, keeping them from frost by a covering of dry hay wrapped about the pots, and covering the tops with mats or other protecting material. No water should be given beyond a little occasionally if required to keep the wood from shrivelling, and during mild weather only. If frost be not excluded the plants will die.

Late Tulips (*Tulips*).—Of your Tulips the following are good:—*Roses*: Vicar of Radford, Mary Lamb, Claudiana, Maid of Falaise, and Bion. *Byblœmens*: Lady Leicester, Chellaston Beauty, Maid of Orleans, and Duc de Bordeaux. *Bizarres*: Gold Cup, Duke of Devonshire, Solon, and Sir Joseph Paxton. Many of the others are sometimes good, but we have pointed out the best in your list. Your must rely on your own genius as to the crossing. They are sometimes grown in pots, but it is not advantageous. The price you name per dozen is very cheap. Those we have named are worth four times the money you have given for the whole.

Clivia nobilis not Growing (*Idem*).—The plant potted seven weeks ago will very likely not grow until spring. Keep the soil no more than moist during the winter. To do well, it requires a warm greenhouse. The kitchen window is much too dry for it, and the temperature too high and fluctuating. The sphagnum on the top of the pot would do as much harm as good. Do not use it.

Peperomia argyrea Treatment (*M. H.*).—It requires a temperature of from 55° to 65° in winter, and 65° to 85° in summer. Being a dwarf stemless species, it is best grown in a pan, well drained, and filled with sandy fibrous peat and sandy loam, in equal parts, torn in pieces with the hand, and used rather rough, charcoal in pieces from the size of a pea to that of a hazel nut, crocks broken small, and silver sand, of the last three half a part, the whole well mixed, using the finer portions for placing over the roots. When the plant is growing give it a moist atmosphere, and liberal supplies of water when it is growing freely, keeping it in a slightly shaded position. When not growing the soil should be rather drier. Avoid wetting the leaves, as they are apt to become disfigured if water stand or drip on them.

Billbergia iridifolia (*Idem*).—It is usual for the old stems and leaves to die down after flowering, young ones being produced from their bases. The old ones survive until the young growths are matured or far advanced, as in the case of the majority of Bromeliads.

Potting Violets (*Rush*).—The plants put into small pots ought to be shifted without delay into their blooming pots. The shift should not be large, say from a 3-inch to 4½-inch pot, or at the most a 5-inch pot. If already in 4 to 5-inch pots do not pot them, especially as you wish the plants to flower in January or February. In 3-inch pots they cannot be expected to do much, though with us they have succeeded well in that size of pot. A rich fibrous loam, light rather than heavy, with a little leaf soil and old cow dung, will grow them well. The proportion of four parts loam to one part of each of the other ingredients will do well. The runners which have formed since the plants were potted should be cut off.

Potting Heliotropes, Pelargoniums, Lobelias, and Salvias (*Idem*).—For winter-blooming the plants should not be repotted now unless they are in very small pots; then a slight shift would be advantageous. They flower more freely when the pots are filled with roots.

Cucumbers for a Trellis (*A Subscriber*).—All Cucumbers are suitable for trellises. Telegraph, Newton Hero, and All the Year Round are three of the best Cucumbers for winter or summer.

Decorative Greenhouse Plants (*Idem*).—We presume by decorative greenhouse plants you mean those which may be employed in-doors at times, which are of good close habit, and free-blooming. Acacia armata, A. longifora magnifica, A. oleifolia elegans, Bouvardia Humboldti, B. Leiantha floribunda, Chorozema varium nanum, C. cordatum splendens, Otaheite Orange, Correas Brilliant and Harrisi, Cyclamen persicum vars., Cypripedium insigne, Cytisus Atleeanus, C. racemosus, Hibbertia Reidii, Hydrangea japonica and its variegated variety, Kalosanthes coccinea superba, Linum trigynum, Monochætum ensiferum, Myrtle, Rhododendron jasminiflorum and Princess Royal, Solanum capsicastrum, Statice brassicæfolia, Vallota purpurea, and Witsenia corymbosa. Flowering plants of all the preceding may be purchased at a moderate price, and with herbaceous Calceolarias, Cinerarias, Pelargoniums, Primulas, Fuchsias, Violets, Deutzia gracilis, Dielytra spectabilis, and bulbs, you may keep up a succession of bloom throughout the year. Camellias, Azaleas, and Epacrises will not, of course, be omitted, as they are among the very best winter and spring flowering plants. A few fine-foliaged or variegated greenhouse plants are—Bambusa Fortunei variegata, Chamærops excelsa (perhaps the finest of all dwarf Palms), Dracæna australis,

Eurys latifolia variegata, Farfugium grande, Isolepis gracilis, Saxifraga sarmentosa, Sedum Sieboldi variegatum, Veronica Andersoni variegata, Yucca aloifolia variegata, and Y. filamentosa variegata. The above, with tree Mignonette and such half-hardy annuals as Gomphrena globosa, Amaranthus bicolor, Balsams, Celosia pyramidalis, with white, red, and orange plumes, and Thunbergia alata will keep a greenhouse quite gay.

Japanese Umbrella Pine (*Idem.*).—Sciadopitys verticillata, we think, would not succeed in an exposed south aspect 300 feet above the sea level, though, as you say Roses flourish beautifully, it would be well worth giving it a trial.

Burning Charcoal in a Vinery (*Devon*).—In an emergency we have used charcoal, coke, and cinders even in open braziers, when the alternative was hurting the plants with the products of combustion, or getting them more speedily and thoroughly injured by frost. All fuel will injure plants when burned in a stove without a flue. With prepared fuel, as when carbonic acid is neutralised, or to a certain extent consumed as it is formed, the danger is a little reduced, but not prevented. A small chimney would prevent any danger. We have a 3-inch pipe for a large stove; with prepared fuel, one not half the size might do.

Edging for a Bed of Roses (*Centifolia Rosea*).—Most people would be content without any edging round such a Rose bed. We think a ring of the dark China Rose, mixed with the miniature white, would look very well, and these would bloom well at from 8 to 12 inches in height. The Moss Saxifrage, as an evergreen close herbaceous plant, would also look very well, and so would a ring of Sweet Violets, as Double Blue, or even the Russian Blue.

Orchard-house Strawberries (*Amateur*).—See "Doings of the Last Week," page 402. The Strawberry plants in pots, the latter plunged outside, may be safe, but they are in greater danger than if they were inside the orchard house. In moving them to the orchard house (cold), and with no means of heating, we would not think of placing them there on shelves where you intend fruiting them. That would be merely avoiding one danger with the chance of running into another, as a sharp frost at any time for twelve or sixteen weeks hence, might be rather unsuitable for plants so situated. The plants would succeed much better set on the floor closely, all the leaves left on the plants, and packed in leaves or litter; and if the pots had no such packing, then there should be a mat or clean litter to cover them in severe weather. Before the plants are placed on the shelves, say in the middle of March, the old spotted leaves should be removed, and the surface soil cleaned off, and more fresh and rich compost added. We should put no plants in pots on shelves where we could not keep the frost out.

Pruning Apricot Trees in Pots—Stoves (*Idem*).—The Apricot trees in pots, not pinched back in summer, should not be severely cut back now, but merely a piece taken off the ends of the shoots, doing this after the buds had so far swelled that you could see how to cut with propriety. Severe pruning at once would be apt to cause you to lose the fruit, and in some cases the tree would also be injured. Next summer you can begin your particular training, and the trees would be all right the following year. We believe that Joyce & Nash's stove, and especially with their prepared fuel, will be useful in a severe frost to keep that frost from injuring the bloom, and especially before there is much wood growth. Open braziers of charcoal might also be useful in an extremity. Both stoves and braziers are dangerous to play with. Joyce's, we believe, would be quite safe with a small pipe going to the external air.

Selection of Fruits for a Garden (*W. B.*).—As your object is chiefly to have free-bearing, profitable, good selling sorts, we would recommend the following:—1, Prince Englebert Plum; 2, Dumelow's Seedling Apple; 3, Louise Bonne of Jersey Pear; 4, Cox's Orange Pippin and Small's Admirable Apples; 5, Denyer's Victoria Plum and Lord Suffield Apple alternately; 6, Cellini Apple and Beurré Bosc Pear alternately; 7, Williams's Bon Chrétien Pear. The Apples to be all on Paradise stocks, and the dwarf Pears on the Quince stock. For the slips at the end we would not recommend any other varieties than those we have just mentioned. When fruit is for sale, then the more there is of one sort the better it will sell. Variety is bad. Joséphine de Malines, Forelle, and Passe Colmar Pears, although good sorts, do not crop well, and Beurré d'Amanlis does not sell well; Beurré de Capiaumont is moderately profitable, and the same might be said of Dutch Mignonne Apple.

Ivy Leaves (*Foxgrove*).—We know of no special name for the variety you enclosed; it is one of the many forms taken by the leaves of the Hedera Helix folis-argenteis.

Dahlias (*A. Z.*).—Lilac Queen, Firefly, High Sheriff, nearly black, Leah, and Perfection. Fair Imogene comes near your other requirement, and there are plenty of lilac-tipped and shaded flowers.

Water from a Limestone Stratum (*J. C. Beale*).—Water passing through limestone is not good for many plants, especially Heaths, Azaleas, and other plants with very small delicate fibres. Unless drawn from a well or spring in the rock the water in limestone districts is little different from fresh-water streams generally, and is not inimical to plants; indeed we know places where good plants are grown with no water except that from limestone. Could you not have tanks to receive the rain water from the roofs of your buildings? It is the best for plants. The water from limestone may be improved by exposing it in a cistern for a few days before use.

Aloe Leaves not Developing (*H. D.*).—The plant has become stunted, probably from being placed out of doors whilst growing. Put the plant in spring, removing most of the old soil and the suckers, and place it in light turfy loam, providing good drainage whether in a pot or tub. Encourage it with a moist atmosphere and gentle heat, watering it sparingly at first, and increasing the supply with the growth. It would be well not to put the plant out of doors until July. The suckers should be potted when taken off. They will make good plants in a year or two, continuing them under glass for a time.

Seedling Cucumber (*G. Edwards*).—The specimen you sent to us, which you state is a cross between Edwards's Eclipse and Craig's Prolific, is very handsome and of a most useful size.

Winter Nelis Pear Unfruitful (*E. B.*).—We think your tree is too vigorous, and its roots have evidently passed into the subsoil. We would lift the tree at once, and place concrete under it to keep the roots from going down; and as inducements for them to remain near the surface apply top-dressings of rich compost in summer and give copious waterings in dry weather, restraining too-vigorous growth by comparatively close stopping. Probably in removing the tree you have placed it in a colder position than it was when it threw well, and that may be the cause of the fruit being small and cracked. Except in warm situations it does little good as a pyramid. It requires a wall, and is one of the very best Pears.

Management of a Sloping Bank (*Idem*).—We think the slope ought to be grass, and if it be twice the perpendicular height it would not only look far better than anything else, but would not be difficult to mow, very little more so than a level lawn. Ivy would do tolerably well; indeed, nothing excels it as a surface-covering. The small-leaved sorts are best. Plants should be put in, if of the small kinds 18 inches apart, and of the strong-growing sorts from 2 feet to 2 feet 6 inches apart. Plant in March, spreading the shoots over the surface, and securing them with pegs.

Tree Exposed to Smoke (*E. M.*).—No tree will flourish in the situation you describe. The Plane Tree endures smoke better than most others.

Border Edging Tiles.—We are informed that those mentioned on page 419 may be obtained from Mr. Hammill, brick and tile manufacturer, Bridgewater.

Celery with Solid Stem (*G. W. B.*).—Your Celery would "bolt"—that is, produce a flower stem, as soon as mild weather occurred. You plant too early, or do not keep it sufficiently watered, or grow it in too poor a soil.

Names of Fruits (*H. A. B.*).—1, Marmalade Pippin; 2, Ribston Pippin; 3, Braddick's Nonpareil; 5, Kingston Black; 6, Pearson's Plate; 7, Trumpington; 9, Winter Greening; 10, Yorkshire Greening; 11, Beurré Diel; 12, Catillac; 13, Lady's Finger; 14, Grey Leadington.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 7th.

Date.		Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
		Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed...	1	29.967	29.930	39	20	42	43	N.	.00	Sharp frost: very fine, cold wind; clear and frosty.
Thurs.	2	29.968	29.896	34	17	41	41	N.	.00	Overcast, sharp frost; densely overcast; frosty, fog.
Fri....	3	29.947	29.797	38	29	40	41	N.	.00	Sharp frost; very fine; clear and cold at night.
Sat....	4	30.100	29.796	48	26	41	40	E.	.00	Sleet; densely overcast; clear and frosty.
Sun...	5	30.259	30.237	42	34	40	39	E.	.00	Cloudy; overcast, very dull; overcast, cold wind.
Mon...	6	30.230	30.191	39	35	41	40	E.	.00	Densely overcast, foggy; hazy; overcast and cold.
Tues..	7	30.191	30.016	41	35	41	40	E.	.00	Dense fog; densely overcast; overcast and cold.
Mean..		30.095	29.935	40.14	28.29	40.86	40.57	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

COMPETING COMMITTEEMEN.

"An Old Committeeman," writing in the Journal of Thursday last, is so temperate and persuasive, that were I dealing with individuals and not a class, I should be disposed to forego my objection. I readily admit that committeemen work hard, and spend liberally at their own show. It is, however, by no means a consequence that they should have the chance of a silver cup. My objection is founded upon a fixed principle that prevention is better than detection, and the conviction, which no one will deny, that if malpractices have not arisen from the custom of competing committeemen, the custom is open to dishonesty. What is true of committeemen is in the same measure true of the judges at poultry shows. I do not think that anyone will be rash enough to say that malpractices have not taken place. Common sense answers "An Old Committeeman's" assertion, that Birmingham being strong in two particular breeds, would never show the best birds of these breeds if committeemen were excluded from competition. Such a restriction might exclude from Birmingham as committeemen very celebrated exhibitors of those breeds; but, as committeemen, there are plenty of others capable of taking their

places. The withdrawal of a great name from Bristol as a committeeman would not pull down that show, and the owner of that name could well afford to pass without plucking another laurel there for his fame in Spanish fowls. I mention these cases because they are put forward by "An Old Committeeman;" but what is true of them is true of all.

"No Committeeman" writes also in the same number of your Journal; but beyond vague and general assertions he says nothing that needs mentioning, except, perhaps, the expression relating to committeemen "deprived of success, doubtless, greater at home than abroad." It is not easy to see fully the meaning of this remark. No man is a prophet in his own country; and unless a man happens to live in the home of a great show, I question whether he would not think the success of winning a cup greater abroad than at home. All England is open to success for committeemen who have really winning birds to show. They must, therefore, either give up all claims to praise for hard work and expenditure, or be content to win where others are working and spending money for them. There is need of reciprocity in more things than free trade.

I regret very much to find, from a notice in your Journal, that "Aliquis" is too ill to reply at present to his "opponents." Do not let us keep that word. For my part I shall meet him in all friendliness, not to oppose, but willing to go with him in anything that may conduce to the welfare of poultry shows.—Egomet.

CONSEQUENCES OF ASSOCIATING HENS OF DIFFERENT VARIETIES.

I am very much interested in the remarks of "Egomet" in "our Journal" about the consequences of associating together different hens of different colours, especially as only this season I have had instances in my own yard which at the time very much puzzled me. I had some White Cochins in a large pen; there were two hens and a cock, also there were running with them two Crêve-Cœur hens. I hatched several White Cochin chickens; they were principally pure white, but three were slightly spotted with black feathers, while one chicken was much spotted on the breast and back, and had a black tail. At the time I could in no way account for this, and imagined my birds had bred back, though I gave a high price for them and knew them to be pure; they have, moreover, quite recently taken a first prize. But now that I see some consequences mentioned in "our Journal" from the associating of different breeds, I begin to think that the reason why some of my White Cochin chickens were speckled was not from breeding back, but from the fact of Crêve Cœurs running with them. I had the chickens killed for the table as soon as large enough, for they looked so spurious along with their white brothers and sisters. I wish now I had waited for further results. I shall be curious to know whether more instances may be recorded.—R. S. S. Woodgate.

Your correspondent "Egomet," in the Journal of November 25th, in allusion to the subject of variation of colour in poultry, says, "It is pretty certain that white and black, and white and yellow, are interchangeable colours, whilst red remains unchanged." Is not white a sign in most animals of impurity of strain, or cross? The following experience for two seasons in my own small poultry yard may be not out of place on the subject of colour. My fowls are mostly Grey Dorking, a few Spanish, and two Buff Cochin-China hens. During one season a White Dorking cock, and the other season a Grey Dorking, has run with them. The progeny of the Cochin-China hens have been both seasons alike—white with small black tails, and a slight pencilling of black about the hackle and wings. They are all alike. Their Cochin characteristics are very decided, but their plumage mostly white; while, although the plumage of the hens is a uniform sandy buff, not a buff feather is to be seen in any of the pullets. The buff has changed to pure white.—C. M. Hughes, 7, *Paragon, Blackheath.*

THE POULTRY PENS AT THE SOUTHAMPTON SHOW.

In your number of the 18th ult. you make statements in your comments on the Southampton Show which are calculated to produce erroneous impressions, as well as to injure our reputation in connection with poultry shows. In the first place you say that "our representative asserts, that the whole number of pens left for Southampton a week previous to the day appointed for fixing them;" and then you say that "parties from the railway give the contrary version," which implies a direct falsehood. Now what our representative really did say was this, "that the portion of the pens, &c., which were too late, was consigned to the Southampton Show more than a week before the Show, which is correct. They were consigned from Accrington to Southampton before the order for the pens was given, but the rest, which arrived in time, were sent several days later, and we cannot believe the railway company in Southampton will deny the truth of the above. No one can regret more than we do the disappointment and inconvenience, as well as the anxiety, consequent on the late arrival of a portion of the pens, but everything was done that was possible, to make the best of the matter under the circumstances.

You suggest that a fine of £20 should be the penalty of non-fulfilment of contract, but we can assure you that £200 forfeit could not have altered the circumstances as far as the Show was concerned, as everything was done as far as possible to insure success in the arrangements, and it was not until too late to remedy the effect that the cause was discovered, which was that the railway company had neglected to collect the goods, until too late to reach in time. Again, you say that the cost of the pens in carriage from place to place is merely nominal; for your information we beg to inform you that the cost of the carriage of pens to Southampton was over one-third of the amount receivable for the hire of them.

We should not have troubled you with these remarks, but having invested considerable capital in exhibition pens, and never sparing expense or trouble to fulfil our engagements as far as lie in our power, we do consider it rather hard, as soon as there is a miscarriage, to charge the blame upon us in such an injurious manner. You are aware that as a rule the exhibitors of poultry seldom make their entries until after the closing time, which results in crowding all the arrangements into a very short space of time; and in order to prevent disappointment we have had to incur many additional expenses in getting the pens conveyed in time and fixed, and on several occasions we have lost money in doing so, although the cause was not ours. On one occasion we were as much as £10 losers; but we do not make a practice of publishing the shortcomings of secretaries or exhibitors, and beg that in future, should any misfortune occur, which we hope it may not, you will be as charitable as possible.—Turner & Son, *Sheffield.*

ORNITHOLOGICAL MONSTROSITY.

I see that I have very much yet to learn in poultry lore. A bird with four legs is a novelty. It is more, it is a curiosity. It may be more than this—namely, a fortune to a raree-showman. Fancy what might be done with it at the small price of one penny a-head, being as large as life and twice as natural.

A penny a-head! Really my head gets confused at the idea of a four-legged bird, and not only a four-legged one, but one *highly commended* in consequence at Birmingham. Surely some heads are not worth a penny. Will any poultry judge kindly tell me why this monstrosity was highly commended in a show which is held for the encouragement of poultry-breeding for use and for ornament? Was its deformed hideousness commended, or was Nature commended for an accident? Was its owner commended indirectly for his ingenuity in producing a malformation with which he had nothing to do? I shall really be glad of information, because if this is to be a rule of judging, I shall send the first infant I have without a nose to the first baby show that may offer itself; and I shall go in for breeding "ugly ducklings," in the certainty that I shall have commendations for them, which I have failed to receive for very perfect specimens of beauty at Birmingham and elsewhere.—Egomet.

[You will see by the report of the Birmingham Show in another page, that the highly commended card was misplaced, being intended for the Cuckoo Dorkings.—Eds.]

BIRMINGHAM POULTRY SHOW.

The twenty-first great annual Exhibition of poultry, &c., at Bingley Hall—a long career of well-deserved success! It is possible to have too much even of a good thing, and several times the question before the Council has been, How can we lessen the number of entries? Various expedients have been

adopted, but the cry was "Still they come!" This year the entrance money was augmented. It had the effect of slightly lessening the number of entries, but not enough to afford relief. There is not room in Bingley Hall for the numbers who show their confidence in the Committee, and their approval of the management, by competing for some of the many hundreds allotted for prizes. The two open spaces at the ends of the poultry bay are of great benefit; the gallery allotted to the Pigeons, the auction room filled with Ducks, and the Turkeys sharing part of the implement space, are all so many reliefs granted to the crowded poultry bay, but they are not enough. There is not room for the visitors, nor can they see the birds. Not only is nothing impossible to the Birmingham Council, but nothing seems difficult. We do not, therefore, hesitate to mention that which we heard frequently during the Show, that it would be better if the pens were raised higher from the ground. A rise of 12 inches would enable all the lower pens to come within the light afforded by the side lights of the roof, and visitors would be able to see the lower pens without effort.

There were three hundred pens of *Dorkings*, many of them of startling excellence. The increase in the weight of the hens still goes on; the cocks appear to be stationary. There would have been no difficulty in finding ten hens that weighed 100 lbs. Dorking cocks formerly ranked among the remarkable when they weighed 9 lbs., then they reached 10 lbs., since they have attained 12 lbs., but that seems their limit. Mrs. Arkwright repeated her success of last year; Admiral Hornby, Mr. Drewry, and Lord Chesterfield were among the successful, and reminded us of past years in the same building, where prizetaking has made their names familiar as household words. We were glad to see a second prize taken by Scotland. Mr. Anderson may be proud of his position and his exploit. The Silver Greys were better than we have ever seen. Fewer cocks were foul-feathered, and in both classes the winning birds might have been put in open competition with good hope of success. These are always aristocratic classes. The Ladies Dartmouth and Bagot, and Lord Bagot, were among the prizetakers. Although we shall hereafter have to speak of great improvements in classes, we do not think it was anywhere more visible than in the White Dorkings. Colour, shape, and weight were all in advance of former years. Cocks weighed more than 9 lbs., and hens 7 lbs. We deem it right to state here, at the beginning, our limits will not permit reference to every pen that deserves it; we are obliged to refer our readers to the published list of the prizes and commendations.

Two hundred and eighty pens of *Cochins*. These birds formed a show, and among the inducements to large entries figured four silver cups. We like the dissemination of prizes, and therefore our first mention in these classes shall be Mr. Zurhorst, of Dublin, who distinguished himself by taking the second prize for Cochin cocks. A very old amateur also deserves congratulation, Mr. Cattell took four prizes, including a silver cup. Mr. Taylor, of Manchester, took two silver cups. We were glad to note the return to these classes of an exhibitor, formerly well known; we allude to Capt. Heaton, who was successful. The Cinnamon and Buff classes were very meritorious. We found great size coupled with symmetry and good colour. A few pens showed a tendency to an old objection—viz., a dark mark at the end of the hackle feathers. It was always considered a disadvantage, if not a defect, and it would be a mistake if it were permitted to reappear. We can only say one word against the Whites, we mean the prevalence of vulture hocks. In all other particulars they were good, and we should like to see them more numerous. The Brown and Partridge were stronger in hens and pullets than in cocks. The former were many of them faultless; the latter were guilty of red feathers on their breasts. We know, experimentally, it is easier to breed them faulty than perfect, and many a cock that through chickenhood has been destined to great things, has failed almost at the last moment through a discoloured breast. The first-prize cockerel was in perfect health when judged, and dying on Monday morning.

Two hundred and thirty pens of *Brahmas*. What a reproof for those who once doubted the purity of this breed! Many of the birds in these classes were truly perfect—of enormous size, and perfect in symmetry and plumage. Fifty-nine pens among the Dark, and twelve among the Light, were deemed worthy of notice by the Judges. Mrs. Hart took two silver cups and many other prizes. We know no breed that is so largely disseminated over the United Kingdom as this is. The prizes went to England, Scotland, Ireland, and Wales. There is progress among the Light classes. Mrs. Williamson did wonders when she beat Mr. Pares in his own class. He made a good fight, being in three prize lists. We thought well of Mrs. Southard's birds, and Mr. Crook showed capital hens.

The *Malays* ought to show better in numbers and general merit. The "liberality of a few amateurs" enabled the Council to offer additional prizes. There were very good old birds; but in both the chicken classes the second prize was withheld. These entries were more numerous years ago than they are now.

It is satisfactory to turn from a decreasing to a very rising class: we allude to the French breeds. It may be safely said the *Crève-Cœurs* formed the best show of the breed there has yet been in England. Forty pens—large square birds, with glossy plumage, deep breasts, short legs—challenged the admiration of all who saw them. We do not believe they will ever equal the Dorking as a table fowl, but no one could look at them without seeing the meat was put in the right place, and that the offal would be light. We are glad again to note Mr. Zurhorst, of Dublin, was second. Every name printed on the prize-sheet deserves the honour, and all who appear there own first-rate birds. Fifty-seven pens of *Houdans*. These were as good as the Crève-Cœurs, and were faultless of their breed. The Hon. C. W. Fitzwilliam swept off all the *La Flèche* prizes. True, the competition was small, but the condition and size of the winners would have made their success easy in the teeth of more opponents. It would seem that Mr. Fitzwilliam has the gift of keeping these birds in condition; few can do it.

Seventy-nine pens of *Spanish*. We thought very highly of these, and noted in them a disposition to return to the old form—the long and smooth face preferred to the cauliflower surface. Mr. Lane deserves especial notice. The Hon. Miss Pennant, Messrs. Parkin Jones, and Rogers Bull richly merited their honours. We liked all the class, and admired the pullets more than the hens.

Black *Hamburghs* are beautiful birds, and as we looked at the classes we could but do homage to the skill and painstaking that had brought them from the large loose birds we recollect to the compact symmetrical birds that in 1869 would not suffer in comparison with their more gaily-plumaged brethren. The coal-black plumage, white ear, and red comb, make a perfect *ensemble*. The Golden and Silver were good, but we thought the former the best. There was one pullet in the prize pen pencilled to the tip of the tail as very few are. Some of the cocks were deficient in the bronzing of the sickle feathers. In many of the Silvers there was indistinctness of pencilling such as we did not see formerly; the prize pens were, however, very good. There were eighty-six pens of Spangled Hamburghs, and lots of good birds. We have never seen better than some of the prizetakers, and it was hard that some of the Golden highly commended had nothing better; but there was nothing for them. In these, too, we liked the Golden best. There is an accuracy in their "moons" that we do not meet with in the Silvers, and a richness of colour seems to belong to them.

What will be said to fifty-six pens of *Polish*? Their exhibitors are up and doing. Twenty-eight of these were Silvers. All the pens were good, and we look for a continuous improvement in every way.

We can only repeat of the next class that which we heard in the show—"The *Varieties* were various." The first prize went to a beautiful pen of Indian Game called "Bajra," the second to Silkies, the third to Andalusians. Some amusement was caused by a mistake. Two monsters were shown as four-legged Dorkings, and a highly commended card was stuck up on them instead of the Cuckoo Dorkings. Those who came in on Saturday evening noted it. Some were amused, and others, even among the press, were virtuously indignant. The appearance of the prize list on Monday morning satisfied all parties.

It is almost impossible to say much of the *Game*. They were perfect in all their classes. They were numerous. There is no detection of painting legs, or mending plumage, or pulling tails. We can only say every prize given was to the best of our belief well awarded, and every bird that received one deserved it. The Whites have disappeared, and the Blacks are few and far between.

The Sebright *Bantams* were not remarkable for numbers or quality; they were a bare average. The Whites were weak; the Blacks stronger, but not equal to past years. The "Variety Bantams" were better, and showed really good specimens. The Game Bantams were in greater force than ever, and the single cock class was in many respects wonderful. We have never seen them so even, so free from defect. We could but notice how few of these beautiful little birds are kept in the south of England.

Again the Aylesbury *Ducks* had to give way before the Rouen in numbers, weight, and merit. The successful Rouens weighed 18 lbs. 4 ozs., 17 lbs. 13 ozs., 17 lbs. 12 ozs., 17 lbs. 12 ozs., 16 lbs. 6 ozs., 16 lbs. 6 ozs.; the Aylesburys, 17 lbs. 12 ozs., 17 lbs. 7 ozs., 17 lbs. 2 ozs. White *Geese* weighed 50 lbs. and 42 lbs.; Old Grey, 57 lbs. 14 ozs., 53 lbs. 8 ozs.; young Grey, 48½ lbs., 46 lbs. 4 ozs. Single cock *Turkeys*, exceeding one year old, weighed 34 lbs., 32 lbs., 30 lbs., 29 lbs., 23 lbs.; birds of 1869, 23 lbs. 12 ozs., 23 lbs. 8 ozs; two hens, old, 32 lbs., 27 lbs. 4 ozs.; young, 28 lbs. 2 ozs., 27 lbs. 12 ozs.

We are gratified to add this Show was successful among the successful ones, the amount received reaching £1,412 1s. against £1,037 in 1868, £979 in 1867, and £648 in 1866.

Everyone connected with the meeting worked for success, and deserved it. Too much praise cannot be given to those who for nearly a quarter of a century, through good and bad report, have clung to and piloted this great undertaking. All interested in the poultry question are under obligation to Messrs. Wright, Matthews, Luckcock, Mapplebeck, Lowe, Shackel, Adkins, Sabin, and others, who have always been identified with it.

THE PIGEONS.

(From a Correspondent.)

The arrangement of placing some of the classes in the gallery and some in the poultry department was a mistake, and a great nuisance to the visitors. The Council availed themselves of the services of the four Judges who officiated so satisfactorily at the last Show, and certainly these gentlemen had this time made a better division of their work, as Messrs. Harrison Weir and Cottle judged the first seventeen

classes of the catalogue, and Messrs. Bidpeth and Esquilant the remaining twenty-six classes: but though the work was thus fairly apportioned, a better arrangement might have led to better results. I would suggest that the Judges, whoever they may be, cannot be qualified to judge all the classes they undertake successively: so instead of dividing the classes as arranged in the list, it would be much better if they divided them according to their knowledge of the merits of each class, as I think that Messrs. Weir and Cottle, who have judged the Carriers, should have also judged the Dragoons, especially as Mr. Weir's capabilities in the latter class are widely acknowledged.

Now a word as to the comfort of the specimens. The pens were certainly better sanded—a matter to which I drew attention last year, but I beg to suggest, and I hope with the same success, that the feeding and watering cans should be hung outside of the pens, so as to prevent the birds roosting on them, and mixing their food with their excrements, causing them to have dirty beaks after the first day, besides injuring their health.

Of *Almond Tumblers* there were seven entries. These were worthily represented in points, but not in quantity. Mr. Fulton was first with a very beautiful pair: Mr. Ford second with a pair not well matched, the hen being a rather inferior bird: Mr. Fulton third.

Pouter Cocks. Red.—Of these there were ten entries. Mr. Jones was first with a good bird, very slender, and long in the leg: Mr. Fulton second with a good bird. *Hens.*—Nineteen entries. Mr. Gresham was first with a rather small but very showy bird: Mr. Sturgess second with a nice bird: Mr. Stewart commended with a far superior bird to either in every point. The whole of the birds in these two classes were rather bad in colour, the most with splashed tails, &c.

Pouter Cocks. Blue.—Nine entries. Mr. Horner took the first prize and silver cup with a good bird 20½ inches in length, and perfect in marking, colour, and shape: Mr. Gresham was second with a bad-shaped bird: Mr. Gamon highly commended with the King of the Blues, which was far superior to the second-prize bird. *Hens.*—Seven entries. Mr. Fulton was first with a nice hen, but bad in colour: Mr. Gresham second with a good hen.

Pouter Cocks. Black.—Five entries. Mr. Gresham was first with a nice bird, good in all points but colour: Mr. Stewart second with a good specimen. *Hens.*—Three entries. Mr. Stewart was first with a grand hen: Mr. Fulton second with a good bird in bad condition. It is rather remarkable that in these two classes Mr. Stewart took two prizes with the two birds that were disqualified last year for being dyed, "but on close examination they do not appear to be varnished now."

Pouter Cocks. White.—Thirteen entries. Mrs. Ladd was first with a rather small bird, but very showy, in bad condition: Mr. Harvey second with a long-feathered bird, but short in leg: Mr. Fulton commended with a good bird in bad condition. *Hens.*—Sixteen entries. Mr. Fulton was first with a hen far too heavy: Mr. Rose's second-prize hen was grand in shape, style, and condition. The Whites were very good classes, numbering twenty-nine pens, by far the best in the Pouter classes.

Pouter Cocks, any other colour.—Eight entries. Mr. Rose was first with a perfect bird, but Mr. Fulton's second was rather inferior. *Hens.*—Six entries. Mr. Rose was first with a grand Yellow hen: Mr. Fulton second with a good-coloured hen, but of bad carriage.

The whole of the Pouter classes numbered eighty-six entries, being an increase of fifteen over last year: still the Committee ought to receive much more support to justify the liberal amount—£30, they give in prizes to Pouters, which is rather too partial.

Jacobins. Red or Yellow.—Twenty-two entries. Mr. Williams was first with very good Yellow birds, but the cock was rather too coarse. The same exhibitor was second with a fair pair of Reds, but not good in colour, and not well matched. Mr. Royds was highly commended for a pair of Yellows, good in all points, and the best pair in this class, which was the best ever seen.

Jacobins, any other colour.—Six entries. Mr. Royds was first with a faultless pair of Blacks: Mr. Williams second. This gentleman was most fortunate in taking three prizes, as the hen in each pen was marked the same as the Balds—that is, from halfway down the breast-bone they were white, which made them rather conspicuous, the cocks being perfect in this respect.

Barbs. Black.—Nine entries. Mr. Fulton was first with a very good pair in bad condition: Mr. Shaw second—the cock a remarkably good bird, the hen thin in beak and cross-beaked. Mr. Crossley was highly commended for a perfect pair, the best in the class, and quite healthy-looking, which is not often the case with the best specimens.

Barbs, any other colour.—Six entries. Mr. Crossley was first and second, the first-prize pair being a remarkable pair of Duns, the second very good Reds. Mr. Firth showed a good pair of Yellows.

Balds and Beards.—Eleven entries. Mr. Fulton was first, Mr. E. C. Bates second, Mr. South third, with good specimens. Mr. Choyce showed a pretty pair of Yellow Balds, which were highly commended, and Mr. Edge a good pair, though unnoticed.

Tumblers, Short-faced.—Eight entries. Mr. Fielding, jun., was first, Mr. Fulton second: Mr. Crossley's very highly commended were well worthy of a third prize.

Tumblers, any other variety.—Twelve entries. This class was most properly added for the first time in this Show, and I believe it would be more just to exhibitors if it were divided into two classes, so as to form a separate class for "Long-muffed Tumblers," which are a favourite variety with the numerous local fanciers. In this class Mr. Careless, Mr. Bradley, and Mr. Sproston exhibited some beautiful specimens, but the awards went to clear-legged birds. Mr. Hawley was first with Red Mottles; and Mr. Horner second with Yellow Mottles. The cock in this last pen was trimmed on the legs to remove partial muffs to make him match the hen.

Runts.—Seven entries. This class of the "heavy weights" was judged by weight, and Mr. T. D. Green deservedly took the silver cup and first and second prizes.

Antwerps.—Thirty-eight entries. Owing to the rapid increase in the entries of this variety, they were most properly divided into two classes—viz., Chequers and any other colour. In the *Chequer* class there were twenty-one entries. Mr. Ludlow was first with Blue Chequers, and Mr. Bulpin second with Red Chequers. In the class for *Any other colour*, Mr. Taylor was first, and Mr. Bradley second, both with Silver Duns. Both were excellent classes, and comprised many pens of high quality to the "initiated," who are very numerous. Among the Chequers were birds shown by Mr. Bradley, Mr. Copman, and Mr. Yardley, which, according to the numerous local fanciers, who can boast of introducing the "Show Antwerps," were more worthy of the prizes than the possessors of the honours. The first-prize birds were rather coarse in head, but splendid in colour and condition. The second-prize pair was much wanting in quality of head, and did not match in colour. Mr. Taylor's Silver Duns were a perfect match, but rather narrow in head: however, highly, they were sold for £3. Mr. Bradley's pair merited its place, though not in good condition. Mr. Yardley showed two birds which, "if a pair," would have deserved a prize, but the Judges were doubtful, and so passed them over.

Carrier Cocks. Black.—Sixteen entries. Mr. Horner was first with a very good specimen: Mr. Colley second, with, in my opinion, the best bird in the class, very narrow in skull, grand eye, and perfect carriage and colour. *Hens.*—Nine entries. Mr. Fulton was first and second with fair birds. Mr. Crossley's pen, 1995, was a far better bird than the second-prize one.

Carrier Cocks. Dun.—Eight entries. Mr. Hawley was first with a very good bird. Mr. Ord's second was rather coarse. Mr. Crossley again showed a far superior bird, which only had highly commended. *Hens.*—Eleven entries. Mr. Hawley was first with a grand bird, very large in eye, and good in carriage—in fact a perfect Carrier: and Mr. Crossley second with a fine hen. Mr. Colley showed a wonder for her age—seventeen months. This class was the best of the Carriers.

Carrier Cocks, any other colour.—Three entries. Mr. Fulton was first with a good specimen. This class was quite unworthy of any prize. *Hens.*—Four entries. Master H. A. Yardley was first, with a very good Blue hen, splendid in colour, but quite out of condition. This very specimen won only two or three years ago prizes in the Dragoon class!

Fantails. White.—Twenty-five entries. Mr. C. Bulpin was first and second with two good pairs: and Mr. Yardley third with a handsome pair, which to my mind should have been at least second. The majority were good, although there were a few pens of a common type which contrasted strongly with the prize birds.

Fantails, any other colour.—Nine entries. Mr. F. Graham was first with a pair of well-matched "true Blues, which well merited their position. Mr. Choyce was second with a pair of very middling Blacks, which did not deserve a place, the hen not being fit for showing, and the cock, if any other colour than black, would not be noticed. Mr. Yardley was highly commended with a pair of very good Blues, which, in my opinion, as in the other class, deserves a better position. The Blues in this class are of a much better colour than is usually seen in Fantails.

Trumpeters, Mottled.—Eight entries. Mr. Shaw was first with a good pair, but not well matched in markings: Mr. Harvey second; Mr. Firth, jun., highly commended: Mr. Taylor commended. In this class an extra first prize was awarded to a pair of birds accidentally not placed in the pen allotted to them till many hours after the birds were judged. I failed to discover the merit of the extra prize.

Trumpeters, any other colour.—Six entries. Mr. Firth, jun., was first with a superior pair of Blacks, well matched: Mr. Oates second with an excellent pair in capital condition: and Mr. Gamon highly commended.

Dragoons. Blue.—Seventeen entries. Mr. South was first for a pair of very coarse, broad-skulled, though good-coloured "young Carriers:" and Mr. J. Percivall second. There were several commendations, but evidently the best birds were unnoticed, and this was the opinion of the majority of the exhibitors. This was a good class.

Dragoons, Red or Yellow.—Seventeen entries. In this class some excellent specimens were exhibited. Mr. South was first with a beautiful pair of Yellows, pale in colour, yet in back and thigh uniformly good; they were worthy of their place, as the hen especially was very beautiful. Mr. P. H. Jones was second. This was a great mistake, for they were a coarse, heavy-wattled pair, besmeared with grease, and in all respects unworthy of notice. This was an excellent class—a better I never saw. Mr. Bulpin showed a very good pair of Yellows. Mr. J. Thompson exhibited the best pair of Reds I have seen for some time. Mr. Ludlow showed a neat pair of Yellows.

Dragoons, any other colour.—Fourteen entries. Mr. Percivall was first with a good pair of Silvers. Mr. J. Edge second with two good birds, but ill-matched. Mr. Allsopp unquestionably, although un-

noticed, exhibited the best pair of Silvers. There were several pens of White, all of which were inferior birds. In my opinion there is a standard wanted in the Dragoon breed, both for judges and exhibitors, as there was a very wide difference in the character of the successful birds, strongly proving the want of an acknowledged standard on the part of the judges, and the want of a guide for fanciers.

Owls, Foreign.—Six entries. Mr. F. Crossley was first with a very pretty pair of Whites; Mr. Fielding second; and Mr. S. Shaw highly commended. Mr. S. A. Wyllie showed a good pair in perfect condition.

Owls, English.—Nine entries. Mr. J. W. Edge was first with a very good pair of Whites, the cock perfect in head and frill. Mr. C. Bulpin was second, good. Mr. J. Firth showed a good pair in bad condition. The Rev. F. Watson was highly commended.

Nuns.—Fifteen entries. Mr. W. Banks was first with a pair not quite perfect in flights; Mr. C. Bulpin second with some white flights cut short; Mr. Banks third; Mr. W. Croft highly commended for a pair with cut flights; Mr. Jones commended. Nearly all the birds in this class were deficient in black flights, and the rest of a leaden black colour. I discovered that out of two pairs of birds there were nearly twenty white flights cut short to make them show the black!

Turbits, Red or Yellow.—Fourteen entries. Mr. S. Shaw was first; Mr. Horner was second; Mr. Shaw highly commended. The pen from the last-named was of a beautiful yellow colour, shell-capped, and in excellent condition—in fact, worthy of the second honours.

Turbits, any other colour.—Mr. J. South was first; Mr. W. Banks was second; Mr. Yardley highly commended. Mr. Fielding, jun., was highly commended. Mr. Paget exhibited a pair of Blues with white bars, which if shown in the "Any other variety" class I believe would not have been passed.

Magpies.—Thirteen entries. Mr. P. H. Jones was first; Mr. J. Firth, jun., was second; Mr. E. Horner highly commended. Very good to all appearance.

Archangels.—Nine entries. Mr. C. Bulpin was first; Mr. F. Sale second; Mr. W. Underwood highly commended. Rather a middling class, as the most of the specimens were somewhat chequered. Mr. S. Wyllie exhibited a very pretty pair of Archangels in character, but with rather blue wings and black bars, which if shown in the "Any other variety" class would most likely have met with success.

Swallows.—Thirteen entries. Mr. E. Horner was first, and Mr. J. Watts second. A good class, most of the birds being artistically got up.

Any other variety.—Eighteen entries. Mr. Yardley was first with Satinettes in perfect condition, and with the pair which claims the honour of having won upwards of £67 in prizes! The same exhibitor showed two pairs of the same breed, which, though better in points, were not in good condition. One of the Judges pronounced them irresistible. Mr. G. Sturgess had an extra first prize for Swifts, anything but beautiful, but most remarkable for length of feather. Mr. Paget was second with Scandaroons, a most remarkable and uncommon pair of birds, nicely marked with good red. Mr. W. B. Tegetmeier had an extra second prize for White Pigmy Pouters, or "White Isabels." In my opinion size does not constitute a "new variety." Mr. Paget was third with Blue Frillbacks, very bad in shape of head and colour, but said to be something new! Mr. Draycott had an extra third prize for an unnamed pair.

(From a Correspondent)

At the auction, as reported last week, only one Houdan is mentioned as sold, Mrs. Wilkins' third-prize cock, which realised £2. This would not give a fair idea of the popularity of the breed. Mr. Quibell's first-prize cock at the Show was claimed at £10 10*s.*; Mr. Fox's commended cockerel was claimed at £5; and several other pens were claimed at prices varying up to £5 5*s.*

LEEDS POULTRY SHOW.

Although this year it was impossible for the Leeds Committee to appoint any other days for the Show than November 30th and December 1st and 2nd, and consequently it clashed with Birmingham and another show, they have good reasons to congratulate themselves on the unprecedented success of this year's meeting, for, combined with a marked improvement in quality, the number of entries was far in advance of that at any previous Show at Leeds. There is one improvement, however, which must be made a subject of consideration; the time allowed the Judges is not nearly sufficient for them to deliberate carefully whilst making their awards, particularly as the greater portion of even this short period is during the full access of the public, so that the Judges have to make their way as best they can among anxious and often very interested visitors, and the decisions are consequently delayed.

A few pens of the *Game* fowls were very good, but, as might be expected, most of our greatest breeders of Game were exhibiting at Birmingham. The *Dorking* chickens were indeed a good class, but deformity in the feet of several of the old birds was a great drawback. All the *Spanish* were superior, chickens taking the silver cup for these classes. *Cochin-China* fowls were scarcely up to the mark: and the *Brahma* classes gave evidence that the best specimens had been culled for Birmingham. The *Hamburghs* were the glory of the Leeds Show. Every class was well filled, and the time and consideration devoted by the two Judges in awarding the silver cup expressly for Hamburghs, showed that their duty was a most anxious one. It was said that on this occasion nearly a dozen pens of Hamburghs that had at one time or another previously taken cups, were in competition. The selling class was unusually good, and a fair proportion of pens changed hands. *Game Bantams* were a fair group, but a general "trimming" threw out several good pens. *Turkeys* and *Geese*, as well as *Ducks*, were excellent. The show of "dressed" poultry was also excellent, but in all such cases, whatever description of bird it may be, the bird should be shown simply plucked and tied, and cut, as was the case at Leeds, drawn, and in some instances even larded ready to be put to the fire.

Pigeons formed large classes, and many of the very best birds in the kingdom were on view.

The entry of *Rabbits* was one of the marked features of the Show: among them was a lop-eared animal which seemed to have hosts of admirers, for the ears were so wonderfully developed that we were told they were carefully measured, and proved to be 22½ inches long, by 5 inches in width.

The weather was cold, and the frost rendered the ground so slippery as to prevent horses travelling, but the visitors were numerous, and congratulations as to the annual improvement of the Society were general.

Game Cock (Any description).—1, W. Spencer, Haworth. 2, W. H. Robinson, Keighley. 3, E. Winwood, Worcester. *hc*, J. Firth, Chatsworth, Bakewell; T. Dyson, Halifax; H. M. Jubau, Hull.

Game (Black-breasted Red).—1, J. Wilson, Calverley. 2, J. Firth. 3, W. Boyes, Beverley. *hc*, J. Barrow, jun, Kendal. *Chickens.*—1, E. Aykroyd Bradford. 2, W. Spencer. 3, J. Barrow, jun. *hc*, W. Spencer, Haworth H. Jowett, Idle, Leeds. *c*, J. W. Thompson, Southowram, Halifax.

Game (Brown-breasted and other Red, except Black-breasted).—1 and Cup, F. Sales, Crowle. 2, H. Hatton, Cleckheaton. 3, G. J. Robinson, Kendal. *Chickens.*—1, J. Smith, Bradford. 2, W. Johnson, Idle. 3, F. Sales. *hc*, J. Barrow, jun. *c*, J. Firth.

Game (Duckwings).—1, H. C. & W. J. Mason, Drighlington. 2, E. Aykroyd. 3, W. Boyes. *Chickens.*—1, W. J. Cope, Barnsley. 2, H. W. Mitchell, Moseley. 3, J. Wilson, Illingworth.

Game (Any other variety).—1, H. C. & W. J. Mason. 2, G. & C. Ferniss, Accrington. 3, J. Sunderland, Halifax. *c*, G. Pounder, Kirby Moor Side, York. *Chickens.*—1, H. C. & W. J. Mason. 2, J. Firth. 3, W. English, Pickering. *hc*, G. & C. Ferniss, Accrington.

Dorkings (Any colour).—1 and Cup, E. Maud, Middleton, Leeds. 2, J. White, Warlaby. 3, J. Stott, Healey. *hc*, J. P. Newton, Kirby-in-Cleveland; T. Briden, Earby, Skipton. *c*, W. Bearpark, Ainderby, Northallerton. *Chickens.*—1, T. E. Kell, Wetherby. 2, Mrs. Arkwright, Sutton Scarsdale. 3, L. Patton, Taunton. *hc*, T. E. Kell; W. H. King, Healey, Rochdale; J. J. Waller, Kendal. *c*, Wormald, Scoby, & Co., Kirby Moor Side; E. Sutton, Plas Wilmot, Oswestry.

Spanish.—1, Hon. Miss E. D. Pennant, Penrhyn Castle, Bangor. 2, W. and F. Pickard, Thorner. 3, J. Thresh, Bradford. *c*, T. & E. Comber, Warrington; J. Garnell, Bradford. *Chickens.*—1 and Cup, H. Beldon, Bingley. 2, Hon. Miss E. D. Pennant. 3, Tonkin & Tuckey, Bristol. *hc*, Birch & Boulter, Sheffield; T. & E. Comber. *c*, J. Lillitoe, Wolverhampton.

Cochin-China (Cinnamon and Buff).—1, W. A. Taylor, Manchester. 2, W. Massey, Spalding. 3, J. Berry, Sheffield. *Chickens.*—1 and Cup, W. A. Taylor. 2, C. Sedgwick, Keighley. 3, T. Stretch, Ormskirk.

Cochin-China (Any other variety).—1, W. A. Taylor. 2, T. Stretch. 3, Mrs. R. White, Sheffield. *Chickens.*—1, C. Sedgwick. 2, W. A. Taylor. 3, G. Calvert, Darlington. *hc*, H. Crosley, Broomfield, Halifax; G. H. Proctor, Durham; G. Calvert, Darlington.

Brahma Pootras (Any variety).—1, Hon. Miss E. D. Pennant. 2, E. Leach, Rochdale. 3, J. H. Pickles, Southport. *c*, W. Whiteley, Sheffield. *Chickens.*—1 and Cup, W. Harvey. 3, Hon. Miss E. D. Pennant. *hc*, Rev. E. Alder, Etwall Vicarage, Derby. *c*, E. Leach.

Hamburghs (Gold-pencilled).—1, H. Beldon. 2, S. Smith, Northowram. 3, J. Walker, Birstwith. *Chickens.*—1, W. J. Harker, Cottingley. 2, J. Walker. 3, H. Beldon. *hc*, W. R. Park, Abbotsmeadow, Melrose; S. Smith, Northowram, Halifax. *c*, B. Bee, Goornagh, Preston.

Hamburghs (Silver-pencilled).—1, H. Beldon. 2, Duke of Sutherland. 3, J. Walker, Birstwith. *Chickens.*—1, B. Longbottom, Bingley. 2, J. Walker. 3, H. Pickles, jun., Earby. *hc*, H. Smith, Keighley; W. R. Park; Duke of Sutherland, Trentham. *c*, J. Mitchell Keighley.

Hamburghs (Gold-spangled).—1, T. Blakeman, Tettenhall. 2, T. Walker, jun., Denton. 3, T. Dean, Keighley. *hc*, W. Driver, Keighley; H. Beldon. *c*, Mason & Walker, Denton, Manchester. *Chickens.*—1 and 3, J. Ogden, Hollinwood. 2, J. Chadderton, Hollinwood. *hc*, J. H. Booth, Upperthong, Holmfirth; H. Beldon; J. Rollinson, Lindley, near Otley; T. Blakeman, Tettenhall, Wolverhampton; E. Brierley; Mason & Walker. *c*, J. Buckley, Taunton, Ashton-under-Lyne; T. Boulton, Hanford, Stoke-on-Trent; Duke of Sutherland.

Hamburghs (Silver-spangled).—1, H. Beldon. 2, Mrs. Flynn, Stoke-on-Trent. *Chickens.*—1 and Cup, W. Bairstow. 2, D. Lord, Staeksteads. 3, H. Beldon. *hc*, Ashton & Booth, Mottram; W. Bairstow. *c*, A. Tair bourne, Todmorden; H. Pickles, jun.; G. & C. Duckworth, Accrington.

Hamburghs (Black).—1, C. Sedgwick. 2, D. Lord. 3, H. Beldon. *Chickens.*—1, T. Walker, jun. 2, C. Sedgwick. 3, Mason & Walker. *hc*, J. Greenwood, Keighley; D. Lord; Mason & Walker; W. Green, Keighley; J. Smith, Gilstead, Bingley.

Polands (Any variety).—1 and 2, H. Beldon. 3, T. & E. Comber, Warrington. *hc*, G. Boothby, Louth; J. S. Senior, Batley Carr, Dewsbury. *Chickens.*—1, J. S. Senior. 2, J. Batty, Holmfirth. 3, T. Dean. *c*, H. Bowker, Keighley; G. Boothby; W. Silvester, Sheffield.

Farmyard Cross (Any variety).—1, C. Layland, Warrington. 2, Mrs. J. Cross, Brigg. 3, W. Rinder, Leeds. *hc*, S. Ingham, Headingley R. Lott, Woodmansey, Beverley.

Selling Class.—1, J. J. Berry, Sheffield. 2, W. Leach, Oldham. 3, H. W. Illingworth, Idle. *hc*, H. W. Illingworth; W. A. Burnell, Southwell

Notts; E. Shaw; W. J. Cope, Barnsley; J. S. Senior; G. Calvert; J. P. Booth, Silsden. *c*, A. Aldersley, Sunny Bank, Keighley; Barker and Charnock, Illingworth, Halifax; W. Johnson, Idle, Leeds; F. Greenwood, Rochdale.

Bantams (Black).—1, S. S. Mossop, Long Sutton. 2, J. Walker, Halifax, 3, J. Waddington, Guiseley. *hc*, H. Draycott, Humberstone, Leicester; S. Rhodes, Normanton; H. Beldon; S. & R. Ashton, Mottram; Hudson and Burnip, Epworth. *c*, S. & R. Ashton; R. Youll, Sunderland.

Bantams (White).—1 and 2, S. & R. Ashton, Mottram. 3, E. Winwood, Worcester.

Game Bantams.—1 and Cup, W. Newsom, Holbeck. 2 and 3, J. Crosland, jun., Wakefield. *hc*, J. Crosland, jun. *c*, J. L. Oxley, Roundhay, Leeds; F. Steel, Stamp Cross, Halifax; S. Smith, Northowram, Halifax; J. C. Taylor, Oatlands, Leeds.

Bantams (Any other variety).—1, T. C. Harrison, Hull. 2, J. Walker, Halifax. 3, Mrs. Woodcock, Leicester. *hc*, Mrs. Arkwright, Sutton Scarsdale, Chesterfield; S. H. Stott, Rochdale.

Turkeys.—1, S. H. Stott, Rochdale. 2, A. Guy, Grantham. 3, E. Leach.

Geese (White).—1, Mrs. Braithwaite, Stokesley. 2, E. Leach. 3, Rev. G. Hustler, Stillingfleet Vicarage.

Geese (Grey and Mottled).—1, S. H. Stott. 2, E. Leach. 3, Rev. G. Hustler. *hc*, Lord Wenlock, Escrick Park; J. White, Whiteley, Netherton, Wakefield; J. Pitts, Drighlington.

Ducks.—*Aylesbury*.—1, S. H. Stott. 2, W. Stonehouse, Whiteley. 3, E. Leach. *Rouen*.—1, J. J. Waller, Kendal. 2, E. Leach. 3, J. White, Whiteley, Wakefield. *c*, H. Crossley; H. Dowsett, Pleshey, Chelmsford. *Any other Variety*.—1, A. & J. Trickett, Manchester. 2, T. C. Harrison. 3, O. Nussey, Headingley. *c*, F. E. Schofield, Morpeth; S. & R. Ashton.

PIGEONS.

Carriers.—1, G. C. Holt, Lawton. 2, J. C. Ord, London. *hc*, J. C. Ord; F. J. Leach.

Pouters.—1 and Cup, for best pen of Pigeons shown, W. Harvey, Sheffield. 2, E. Horner, Harewood. *hc*, C. Cowburn, Calls, Leeds; C. Cockton, Middlesbrough.

Tumblers (Short-faced).—1 and *hc*, W. Harvey. 2, J. Hawley; H. Yardley.

Tumblers (Any other variety).—1, J. Hawley. 2, F. Steel, Stump Cross. *hc*, J. Rollinson, Lindley, near Otley; F. J. Leach; E. Horner.

Owls.—1, J. Fielding, jun, Rochdale. 2, J. Crosland, jun. *hc*, W. C. Dawson, Otley.

Fantails.—1, E. Horner. 2, W. Harvey. *vhc*, W. R. Park. *hc*, J. C. Ord. *c*, J. Hawley; J. F. Liversedge, Newark-on-Trent; H. Yardley.

Barbs.—1, J. Fielding, jun. 2, W. Massey, Spalding. *hc*, J. Fielding, jun.; C. Cowburn.

Turbits.—1, E. Horner. 3, F. J. Leach. *hc*, F. Easten, Hull; F. S. Clayton, Bradford. *c*, J. C. Ord; R. Wilson, Thirsk.

Jacobins.—1, T. C. & E. Newbitt, Epworth. 2, J. Thompson, Bingley. *hc*, E. Horner. *c*, J. Hawley; C. Cowburn; E. Horner.

Trumpeters.—1, J. Hawley. 2, E. Horner. *hc*, J. C. Ord. *c*, A. A. Vander-Meersch, Forest Hill; — Robinson, Wakefield; J. S. Senior; W. Harvey.

Nuns.—1 and 2, F. Easten, Hull. *hc*, F. E. Thompson, Hull.

Dragoons.—1, T. Smith, Keighley. 2, W. Campsey, Beverley. 3, J. C. Ord. *hc*, T. Lambert, Silsden, Leeds; W. Markland, Dean, near Bolton; J. Walters, Derby; J. Mitchell, Moseley, Birmingham. *c*, J. Hawley; J. Lister, Keighley; J. S. Senior; H. Yardley.

Antwerps.—1, C. Anton, jun. 2, W. Harvey. *hc*, Mrs. Arkwright; J. Crosland, jun.; J. Thompson; H. W. Mitchell, Moseley, Birmingham.

Magpies.—1, J. T. Lishman, Girlington. 2, W. C. Dawson. *hc*, J. C. Ord; F. J. Leach; E. Horner. *c*, H. Draycott; F. J. Leach.

Any other Variety.—1, J. T. Lishman. 2, E. Horner. 3, W. C. Dawson, Otley. *hc*, W. Harvey. *c*, W. C. Dawson; J. Cundale, Ripon; H. Draycott; J. Thompson; H. Yardley.

Selling Class.—1, J. Hawley. 2, J. C. Ord. *vhc*, J. C. Ord. *hc*, J. Lister, Keighley; F. S. Clayton, Bradford. *c*, J. Lister; C. Anton, Petergate, York; J. Thompson; C. Cowburn; E. Kaye, Honley, Huddersfield; W. Harvey.

Rabbits.—*Yellow, White, and Tortoiseshell*.—1 and Medal for best Rabbit shown, B. Hudson, Hull. 2, A. H. Easton, Hull. *hc*, J. E. Crofts, Bawtry; A. H. Easton, Hull; F. Ashton, Drypool, Hull; T. Ingham, Belmont, Leeds; J. F. Stott. *Black and White*.—1, A. H. Easton. 2, A. Chapman, York. *Self-coloured*.—1, J. G. Quick, London. 2, C. Gravill, jun., Thorne. 3, T. Taylor, York. *hc*, E. Butterworth, Rochdale; A. H. Easton; J. G. Quick. *Grey and White*.—1, T. Ingham, Leeds. 2, J. Spenceley, York. *hc*, T. Taylor, Croppergate, York; W. Tomlinson, Barton-on-Humber. *c*, C. King, St. John's Wood. *Selling Class*.—1, T. Ingham. 2, C. King. *hc*, C. Gravill, jun.; C. King; J. G. Quick; W. Allison, Sheffield. *c*, W. Allison.

Judges.—Mr. Edward Hewitt, Birmingham, and Mr. Teebay, Preston, for *Poultry*; and Mr. Hutton, of Pudsey, for *Pigeons and Rabbits*.

MENHENIOT POULTRY SHOW.

(*From a Correspondent.*)

The second annual Show was held in a large tent on the 3rd inst., and with the exception of the Bath and West of England Shows held at Truro and Falmouth, was the largest and best ever held in Cornwall. Last year the entries were about ninety, and this year, owing to the publicity given it in your columns, the entries were upwards of 200, and the birds were of a very high class, especially the Game, of which there were seven classes out of the fifteen for fowls, including an extra class for Tassels, birds having a large crest or topknot of feathers on the head, whilst others of this class had a drooping tuft of feathers fully 3 inches long hanging gracefully down over the hackles. There was another extra class for *Hennies*—birds that were formerly bred for the cockpit, but are now nearly extinct except in the somewhat slow unchanging west. The first-prize pen proved the centre of attraction, as scores of visitors had never seen such birds, and the cock was so perfectly hen-feathered that many could not be induced to believe them to be other than two hens. The *Hamburghs* were a splendid lot, and all the classes were of average merit. The following is the prize list:—

Dorkings.—1, — Beard, St. Blazey. 2, J. H. Nicholls, Lostwithiel.

Cochins.—1 and 2, — Beard.

Brahmas.—1, J. Beard. 2, — Maddox, Launceston.

Game (Black Red).—1, — Higham, Morchard Bishop. 2, — Davey, Perranwell.

Game (Duckwing).—1, J. Toll, jun., Menheniot. 2, — Kendall, Liskeard.

Game (Brown Red).—1, E. Snell, Menheniot. 2, — Harris, Morsewater, Liskeard.

Game (Any variety).—1, — Stephens, Liskeard. 2, Withheld.

Game (Tassel).—1, — Taylor, Liskeard. 2, A. Barrett, Menheniot.

Game (Henny).—1, — Harris. 2, T. Warden.

Hamburghs (Golden-pencilled).—1, S. R. Harris, Cusgarne St. Day. 2, J. H. Nicholls.

Hamburgh (Silver-pencilled).—1, J. Roberts, Menheniot. 2, S. R. Harris, Cusgarne St. Day.

Hamburghs (Golden-spangled).—1, S. R. Harris. 2, Capt. Pryor, Menheniot.

Hamburghs (Silver-spangled).—1, J. Toll, jun. 2, S. R. Harris.

Polish.—1 and 2, J. Beard.

Any Variety.—1, S. R. Harris (Black Spanish). 2, — Polgreen, St. Germans (Minorca).

French.—1, J. Nicholls (Crêve-Cœnr). 2, W. May, Liskeard (Crêve-Cœur).

Single Game Cock.—1, S. R. Harris (Brown Red). 2, F. Richards (Black Red).

Single Cock (Any variety).—1, — Brewer (Black Spanish). 2, — Bennalick, St. Austle (Cochin).

Ducks (Aylesbury).—1 and 2, — Hawkin.

Ducks (Rouen).—1, J. Toll, jun. 2, — Loite, St. Austell.

Ducks (Any variety).—1, — Hicks, (Common). 2, R. Skin, Menheniot (Common).

Geese.—1, — Burrows, St. Cleer (White). 2, T. Pollard, Menheniot (White).

Turkeys.—1 and 2, W. C. Herring, Menheniot.

Bantams (Any variety).—1, Miss S. Rabey, Menheniot (White). 2, — Tucker, St. Germans (White).

Game Bantams.—1, — Hoskin, Plymouth (Black Red). 2, — Lovring, St. Austell (Black Red).

PIGEONS.

Carriers.—1, — Pryor, Redruth (Black). 2, — Snell, Menheniot (Black).

Tumblers (Almond).—1, — Chudleigh, Plymouth. 2, J. Skin.

Tumblers (Any variety).—1, R. Skin. 2, Miss Herring.

Jacobins.—1, — Deacon, Liskeard. 2, Miss Herring.

Runts.—1, J. Snell. 2, W. C. Herring.

Fantails.—1 and 2, — Pryor.

Any Variety.—1, — Pryor (Owls). 2, — Brewer (Dragoons).

Judge.—Mr. Leeworthy, St. John's Cottage, Newport, Barnstaple.

KILMARNOCK ORNITHOLOGICAL SHOW.

The eighteenth annual Exhibition of the Kilmarnock Ornithological Association was held November 27th, in the Corn Exchange Hall and Market. The entries numbered about 700, and the general quality of the specimens shown was excellent. In our next number we shall give further particulars. The following is the prize list:—

Spanish.—1 and 3, Miss A. Hodgarth, Paisley. 2 and Timepiece, J. Moodie, Paisley.

Dorkings (Any colour).—1, T. Briden. 2, T. Smellie, Moorfield, Kilmarnock. 3, A. Yeudall, Glaston. *hc*, T. Smellie; J. Robertson. *c*, J. Robertson.

Brahma Pootras or Cochin-Chinas.—1 and Timepiece, A. Geddes, Kilmarnock. 2 and *c*, A. Robertson, Kilmarnock. 3, G. Y. Dart, Dumfries. *hc*, W. Gibb, Motherwell.

Scotch Greys.—1, J. Fulton, Beith. 2 and *hc*, R. Blair, Johnstone. 3, J. Fleming, Beith.

Hamburghs (Gold-spangled).—1 and Timepiece, J. Jardine, Kilmarnock. 2, R. Mackie, Stewarton. 3, A. Watson, Troon. *hc*, H. Pickles, jun., Earby. *c*, W. A. Hyde, Ashton-under-Lyne; R. Watson, Kilmarnock.

Hamburghs (Gold-pencilled).—1 and Medal, W. Creelman, Kilmarnock. 2, R. Muir, Cairnhill. 3, J. Walker, Birstwith. *hc*, J. Richmond, Kilmarnock.

Hamburghs (Silver-spangled).—1 and Timepiece, D. Skeoch, Stewarton. 2, R. Bruce, Busby. 3, R. Mackie. *c*, G. Pitt, Ringford.

Hamburghs (Silver-pencilled).—1, H. Pickles, jun. 2, J. Walker. 3, D. Skeoch. *hc*, J. Gray, Airdrie. *c*, W. Gibb.

Polands (Topped).—1, H. Pickles, jun. 2 and 3, Countess of Eglintoun and Winton. *c*, R. M'Nab, Govan.

Game (Any colour).—1 and Timepiece, J. H. McNab, Barrhead. 2, J. Waddell, Dumfries. 3, R. Kerr, Thornhill.

Game Bantams (Any colour).—1 and Timepiece, Bellingham & Gill. 2, R. Watson. 3, A. Mackay, St. Quivox. *hc*, W. Walker, Kilbarchan.

Bantams (Black).—1 and Timepiece, J. Scoular, Kilmarnock. 2, S. and R. Ashton, Mottram. Extra 2, J. Jardine.

Bantams (Any other variety).—1, G. Young, Kilmaurs. 2, J. Gray. 3, R. Stirrat, Dalry.

Any other Distinct Breed.—1, A. Jamieson, Kilbirnie. 2, Miss H. Patrick, Beith. 3, J. Allan, Kilbirnie. *c*, R. Frew, Kirkcaldy; J. Blair, Kilmarnock.

Ducks (Aylesbury).—1 and 3, A. Robertson. 2, A. J. Mutter, Kilmarnock.

Ducks (Rouen).—1, 2, and 3, A. Robertson.

Ducks (Any other variety).—1, S. & R. Ashton. 2, J. Robertson. 3, J. Dickie, Gateshead.

Any Variety.—1 and 2, A. J. Mutter. 3, D. Skeoch.

PIGEONS.

Pouters (Any colour).—1, Timepiece, and 2, J. Miller, Glasgow. 3, J. Mitchell. *hc*, J. Sharp, Johnstone. *c*, J. Waddell, Dumfries. *Bred in*

1809.—1, J. Miller. 2, D. M'Naught Kilmaurs. 3, D. Munn, Kilmarnock. *hc*, H. Thomson, Glasgow. *c*, J. M'Crae, Kilmarnock.

Carriers (Any colour).—1, J. Muir, Glasgow. 2 and *c*, J. Kerr, Kilmarnock. *hc*, A. Brown. *c*, G. Y. Dart, Dumfries. *Bred in* 1869.—1, W. H. Mitchell, Birmingham. 2 and 3, G. White, Paisley. *hc*, A. Wardrop, Kilmarnock. *c*, F. Love, Kilmarnock.

Tumblers (Short-faced, any colour).—1, J. Fielding, Rochdale. 2, J. Muir, Kilmarnock. 3, J. Hawley, Bingley. *hc*, A. Sim, Kilmarnock. *c*, F. D. Wood, Edinburgh.

Tumblers (Common, any colour).—1, W. M'Kindlay, Kilmarnock. 2, R. Blair, Johnstone. 3, J. Hawley. *hc*, A. Mitchell, Saltcoate. *c*, W. P. Adam, Tour.

Fantails (Any colour).—1 and Timepiece, J. Sharp. 2, J. Galt, Kilbirnie. 3, R. Gibson, Gateshead. *vhc*, J. Kerr. *hc*, J. Muir. *c*, R. Blair.

Jacobins (Any colour).—1, R. Yardley, Birmingham. 2, J. Waddell. 3, J. Sharp. *hc*, J. Hawley. *c*, W. M'Kindlay.

Barbs (Any colour).—1, J. Fielding, jun., Rochdale. 2, H. Yardley. 3, J. Muir. *hc*, J. Sharp. *c*, J. Hawley.

Trumpeters (Any colour).—1, J. Hawley. 2, J. Sharp. 3, J. Muir. *hc*, A. Wardrop. *c*, A. Kitchie, Irvine.

Nuns (Any colour).—1, J. Murray, Darvel. 2, R. Scott, Galston. 3, T. Imrie, Ayr. *hc*, H. Yardley.

Common (Any colour).—1, W. Kerr, Dalry. 2, W. M'Kindlay. 3, J. Lamont, Kilwinning.

Any other Distinct Variety.—1, J. Fielding, jun. 2, J. Hawley. 3, J. Muir. *hc*, J. Sharp. *c*, H. Yardley.

Any Variety.—1, G. B. Phillips, Ayr. 2, J. G. Orr, Beith. 3, J. Wilson, Beith.

CANARIES.

Yellow.—*Cock.*—1, J. Crawford, Beith. 2, A. Kelly, Paisley. 3, J. Conn, Kilwinning. *Hens.*—1, J. Gray, Airdrie. 2, W. Reid, Kilmarnock. 3, A. Kelly.

Buff.—*Cock.*—1, R. Crawford, Kilbirnie. 2, J. Gibson, Paisley. 3, M. Howard, Overton. *Hens.*—1, A. Kelly. 2, J. Gray. 3, R. Watson, Kilmarnock.

Piebald (Yellow). — *Cock.*— 1, J. Noris, Ardrossan. 2, T. Christie, Glasgow. 3, J. W. Will, Errol. *Hens.*—1 and 2, A. Kelly. 3, J. Crawford.

Piebald (Buff).—*Cock.*—1, J. Fisher, Dalry. 2, J. Gray. 3, H. M'Kissock, Glasgow. *Hens.*—1, J. Wilson, Beith. 2, W. Hunter, Kilbirnie. 3, J. Wilson, Galston.

Goldfinch Mule (Yellow).—1, J. R. Adam. 2, G. Brydon, Ayr. 3, R. Brown, Newmilns.

Goldfinch Mule (Buff).—1, J. Gray. 2, W. Gondie, Ayr. 3, G. Brown, Kilmarnock.

Goldfinch.—1, T. Conn. 2, J. Fisher, Dalry. 3, J. Fergeson, Kilmarnock.

Canary (Clean).—1, A. Kelly.

Linnet Mule.—1, T. M'Murtrie, Riccarton Toll.

The Judges were: for *Poultry*, Messrs. J. Kidpeth, Edinburgh; J. Lindsay, Stewarton; J. Paton, Stewarton; and R. Calderwood, Kilmarnock. *Pigeons:* Mr. James Hnie, Glasgow; and Mr. William Brown, Wishaw. *Canaries:* Messrs. G. Masterton, Glasgow; T. Fernie, Paisley; R. Paterson, Howwood; and S. Brown, Glasgow.

BURTON-ON-TRENT BIRD SHOW.

This Exhibition of Cage Birds took place on the 20th of November. As a first Show it was, in every respect, a decided success, a result which must be mainly attributed to the exertions of an indefatigable Committee, who spared neither trouble nor expense in the management of the Show. The Exhibition was held in the Town Hall, and throughout the day was well patronised. Some splendid pens of *Game*, Silver-pencilled and Golden-spangled *Hamburghs*, Game *Bantams*. *Pigeons*, *Parrots*, and many specimens of *British Birds*, added much to the interest of the Exhibition. The prospect for the future Shows is most encouraging. The following are the awards:—

BIRDS HATCHED IN 1869.

Norwich (Clear Yellow).—1, J. Anthony. 2, W. Holmes. 3, R. Cowley. 4, W. Holmes.

Norwich (Clear Buff).—1, J. Anthony. 2 and 3, W. Holmes. 4, R. Cowley.

Norwich (Marked Yellow).—1, J. Anthony. 2, T. Newbold. 3, R. Cowley.

Norwich (Marked Buff).—1, J. Dent. 2, J. Anthony. 3, W. Holmes.

Norwich (Variegated Yellow).—1 and 2, R. Cowley. 3 and 4, J. Dent.

Norwich (Variegated Buff).—1, R. Cowley. 2, W. Holmes.

BIRDS OF ALL AGES.

Belgians (Clear Yellow).—2, R. Cowley.

Belgians (Clear Buff).—1, R. Cowley. 3, T. Newbold.

Belgians (Variegated Yellow).—1, W. Gretton.

Norwich (Clear Yellow).—1, W. Holmes. 2, T. Newbold.

Norwich (Marked Yellow).—1, R. Cowley. 2, W. Holmes.

Norwich (Marked Buff).—1, J. Anthony. 2, R. Cowley.

Norwich (Variegated Yellow).—1, J. Anthony. 2, T. Newbold.

Lizards (Golden-spangled).—1, J. Anthony. 2, W. Holmes.

Cinnamon Yellow.—1 and 2, W. Gretton.

Goldfinch Mules.—1, W. Holmes. 2, J. Dent. 3, W. Gretton.

Goldfinch Mules (Crested).—1, W. Holmes.

Bullfinches.—1, W. Holmes. 2, J. Chiswell.

Skylarks.—1, J. Chiswell. 2, J. Anthony.

Mr. G. J. Barnesby, of Derby, was the Judge.

BIRMINGHAM RABBIT AND CANARY SHOW.

The twenty-third annual Show of Rabbits and Canaries was opened on the 29th ult. in the Odd Fellows Hall, Upper Temple Street. About one hundred Canaries and forty-three Rabbits were entered. Mr. H. Attwood's tortoiseshell buck carried off the first prize for length of ears (22½ inches), and an extra prize, given by Mr. Collins, for the best particular colour, all properties. Mr. J. Curtis's black and white doe gained the second prize for length of ear (22¼ inches), and the first for weight, 12 lbs. Mr. Beech's black and white doe, Mr. Pratt's yellow and white buck, Mr. Hincks's tortoiseshell buck, and blue and white buck, Mr. Attwood's gray and white buck, and Mr. Curtis's grey doe, were the first-prize winners in the classes for all properties. Extra prizes for self-colour, and black and white were awarded to two Rabbits exhibited by Mr. Curtis.

Of *Canaries* the Belgian classes included some very fine specimens. Mr. J. Turner's birds won three first prizes in these classes, and Mr. G. Corbett, sen., in two classes. Mr. G. Smith obtained a first prize. There was a good display of Norwich Canaries, in which classes Mr. G. Corbett, jun., obtained four first prizes, Mr. J. Turner one, Mr. W. Smith one, and Mr. W. Corbett one. Two silver cups were presented, as extra prizes, to Mr. J. Turner for the best Yellow Belgian in the show, and for having obtained the greatest number of prizes in all classes. An extra prize, for the best variegated Yellow Belgian, went to Mr. G. Corbett, sen. Messrs. B. Guest, H. Hall, J. Newton, and B. Johnson were the Judges.

CANARIES.

On the 11th and 18th of November, I read in the Journal the report of Mr. W. Blakston, of Sunderland, on the Darlington and Stokesley Canary Shows, and I beg to make some remarks thereon.

Referring to the Darlington Show, I was very much astonished at his remarks on the Belgian Canary. It must be quite patent to the most casual observer in "the fancy," that Mr. Blakston is not an admirer of this very noble and elegant variety of Canary, and therefore I would observe that, if a man has no fancy for this particular variety of bird, he is certainly not a proper person to judge of its merits. His remarks in reference to the Green Canaries are very vague. It is a well-known fact that in the northern counties of England, especially among the pitmen, the clear Green Canary is a great favourite; but the ambition of these men is to bring them as nearly as possible to the pure-bred Belgian, in size, symmetry, and contour. The "pea-green," as Mr. Blakston very inaptly terms it, is a colour never seen in a Canary; they are generally very dingy in colour, and black-green, or blackish-green, would be a much more appropriate designation. The Norwich Greens were bred, originally, from the Lizard Canary; and by judicious pairing and crossing, the Clear Jonque and Mealy Norwich varieties have been established.

I will now pass on to the Stokesley Show. I would like Mr. Blakston to give a proper definition of the Yorkshire Fancy. I am informed on very creditable authority that this variety of bird is unknown in Sunderland. The Norwich Fancy, London Fancy, Yorkshire Fancy, Glasgow Don or Scotch Fancy, and many other varieties are all mongrels, so to speak, as the whole of these varieties have been obtained by judicious crossing from other kindred and distinct varieties. If a man wishes to improve the size and shape of his birds he naturally crosses with a Belgian; if colour is his object, then Norwich or London Fancy, or Lizard, particularly for marked birds.—R. C. Wallace, *Berwick.*

SPURIOUS HONEY—DRONES IN NOVEMBER.

Although I have no personal knowledge of the frauds that are perpetrated in the honey market, I have no doubt that Mr. Pettigrew has good grounds for the allegation he has made. Beautiful-looking combs can be manufactured from sugar, and when filled with syrup it is all but impossible, if judged merely by the eye, to detect their spurious character. As showing how parties may be deceived, I may mention what came under my own observation.

The summer of 1854 was cold and wet, so much so as to prevent any collections being made from the fields, and consequently all my hives had to be kept alive by sugar, which was liberally dispensed. By some awkward manipulations on my part, an accident happened to one of them, whereby several of the well-filled combs were broken down. When carried into the house they presented a very tempting appearance, and a lady and gentleman who happened to see them were very anxious to taste the new season's honey. I assured them that the combs that looked so attractive were merely filled with sugar and water; but my statement was received with incredulity, and I had to yield to their request and give them what they required. To my astonishment, on tasting the artificial material, they pronounced it excellent honey, and they proved that they relished it by the quantity they ate. Seeing how the eye could

be deceived, it was resolved to play a practical joke upon one of the members of the household, who was known to be exceedingly fond of honey. A piece of beautiful empty comb was selected, and the cells neatly filled with codliver oil. It was then placed in a situation where the lover of honey was sure to find it. The result was just as expected—the deception was not perceived until the nauseous preparation had been taken into the mouth, and you may be sure that the wry faces that followed occasioned immense merriment to those who were in the secret. Knowing these facts, I have often thought that it would be no very difficult matter for unprincipled apiarians to foist upon incompetent judges a spurious article.

Hitherto I have refused to allow myself to be nominated as a judge of honey where prizes are given; but if I should at any time be placed in that honourable capacity, I should certainly insist upon exercising the sense of taste before making an award. The prizes offered should be of sufficient value to compensate exhibitors for any disfigurement of their glasses or supers.

Whilst thus giving my opinion that sealed combs made entirely from sugar may be of such beauty as to deceive the eye of the most practised and competent judges, I must at the same time confess that I know nothing of the fraudulent practices that are said to prevail, having had no experience whatever either in buying or selling honey.

But I pass to another subject. In the interesting account which Mr. Lowe gave in 1866 of his experience of the Egyptian bee, mention is made of drones making their appearance at a very late period of the season in one of his colonies. I thought at the time that it was one of the peculiarities of Apis fasciata. His words are, "At this moment the Egyptian colony is without exception the most populous in my apiary. The maturing brood is still plentiful, young drones have again appeared. The appearance of drones at the end of October is a perfect anomaly with me. I have observed, however, that the young larvæ are now being dragged out." Drones in a healthy hive, with a perfect queen, so late as the end of October are certainly anomalous, but what will he think of drones in November? Passing round my apiary on November 8th, I saw them coming out in great numbers from one of my hives. I naturally concluded that the old queen had disappeared and given place to another, which had failed in meeting a husband, and had therefore become a drone-breeder. To satisfy myself I opened the hive on the following day and made an examination, but no change had taken place—my old queen with clipped wings, reared a year ago, was still present, active, and looking well. The hive was crowded with bees and a large proportion of drones, all the combs being well filled with honey. Yesterday (November 22nd) the drones were out for an airing, and what is very singular, no attempt has been made by the bees to expel them. Will Mr. Lowe favour us, if possible, with an explanation of the mystery?—R. S.

JOURNAL OF A LANCASHIRE APIARY.

I enclose a copy of this year's entries in my bee journal, and desire at the same time to tender my thanks to Mr. Pettigrew for his "minted syrup," to "B. & W." for his little book, and to "A Devonshire Bee-keeper" for his instructions "How to drive bees." I begged three condemned stocks, drove them, and joined the bees to my "keepers." The hive of my own, which I broke up (No. 1), I treated in the same way. Wasps have been a great nuisance this year, and have plundered a great weight of honey.—J. H. B., *The Fylde, Lancashire.*

No. 1, common hive, established June 18th, 1867. April 6th, 1869, weighed nett bees and honey, 37 lbs. June 28th, swarmed. Removed stock, and put swarm in old stock's place as soon as hived. Weighed the swarm at night, 7¾ lbs. The stock did not send out a second swarm. September, drove bees, and added them on Mr. Pettigrew's plan to another stock. Found 25 lbs. of honey in the hive, which I took.

No. 2, common straw hive, established June, 1867. 1869, April 6th, weighed 34 lbs. nett. June 29th, swarmed. Treated the swarm like No. 1. Weight of swarm at night, 6 lbs. There was no second swarm. September, added bees from a driven hive. October 9th, weighed 19 lbs. nett. October 11th, feeding gave three bottles.

No. 3, common straw hive, established June 18th, 1868. 1869, April 6th, weighed 27 lbs. nett. June 1st, commenced work in a small super. June 15th, commenced work in a nadir box hive. August 10th, took honey, 30 lbs. October 3rd, fed bees, and added a driven stock. October 22nd, not yet weighed.

No. 4, wood box hive, established June 18th, 1868. 1869, April 6th, weighed 23 lbs. nett. June 25th, swarmed; the treatment the same as for No. 1. Swarm weighed 7 lbs. 10 ozs. There was no second swarm. October 9th, weighed 31 lbs. nett.

No. 5, wood box hive, established July 1st and July 2nd, 1868, from two second swarms joined. 1869, April 5th, weighed 19 lbs. nett. June 25th, commenced work in super. August 12th, removed super containing 28 lbs. of the most beautiful honeycomb. October 9th, weighed 22 lbs. nett.

No. 7, square straw hive, established June 29th, 1869. September 1st, joined a driven stock. October 9th, weighed 13½ lbs. nett. October 11th, feeding commenced.

No. 8, square straw hive, established June 28th, 1869. September 2nd, joined a driven stock. October 9th, weighed 21½ lbs. nett.

No. 9, square straw hive, established June 25th, 1869. October 9th, weighed 27½ lbs. nett.

Results of Year.—No. 1, honey, 25 lbs.; swarms, one. No. 2, honey, none; swarms, one. No. 3, super honey, 30 lbs.; swarms, none. No. 4, honey, none; swarms, one. No. 5, super honey, 28 lbs.; swarms, none. Nos. 7, 8, and 9 are the three swarms of this year.

MODE OF INTRODUCING NEW QUEENS.

Your correspondent who on the 25th of November gave an interesting instance of queen encasements, may find in one of the recent numbers of "The American Bee Journal" a contribution from an able writer, in which he expresses the opinion that queens are sometimes "loved to death."

This leads me to remark that the latest German method of introducing new queens appears to be a very excellent one. The process is simple and speedy. Sprinkle the queen to be introduced, and the stock in which she is to be placed, with syrup strongly scented with grated nutmeg. Do this liberally, and allow a few minutes to elapse before disturbing the frames. Then find the queen to be removed, and place her, with a few of her subjects, in a cage, in case of accident. At once place the new queen upon one of the combs, and close the hive. Next day an examination should be made to see that all is right. I have made a very satisfactory trial of the plan, and think it has no equal.

This method possesses many advantages. The exchange is effected in one operation; no time is lost through the absence of the queen, even for an hour; and the bee-master who discovered it states that the result is certain.—A. L., *Reading.*

LIGURIANISING THE COMMON BLACK BEE.

About seven o'clock in the morning of the 28th of October I received a Ligurian queen and her attendants, but it was a morning most unsuitable for bee operations, as the ice was an inch in thickness; in short, it was a bitterly cold day. The bees after their long journey were very much chilled, indeed they appeared lifeless; but after being put into a warm room for a while they soon came to, and were very lively. Although it cost me a good deal of anxious thought, I am happy to state that her yellow majesty was introduced to her black subjects with perfect success. My difficulty was this—the stock to which I was about to introduce the queen was in a common straw hive, and I could see no chance of capturing the black queen, except by driving them, and to prevent loss of bees on such a day what was to be done? There is an old saying, "Want is no shift," or "Where there is a will there is a way;" so I decided to have the bees brought into my kitchen, where I succeeded in driving them into an empty hive; and in searching for the queen, which I captured in two minutes; only about three dozen bees flew to the window, all of which I returned without losing a single bee. This was about 3 P.M., and in an hour afterwards I found unmistakeable signs that the bees had discovered their loss. I then introduced the black queen to her old subjects, but first put her into a queen cage, where I left her until about eight o'clock next morning; then I took her out, and again left the bees queenless until I saw they had discovered their loss, which was about nine o'clock. I then introduced her yellow majesty in the same cage, and put her in the same place in the hive, and precisely at ten o'clock I opened the prison door; she was immediately well received by her new subjects, and I need hardly say that I feel very proud of my success.

I may here state that the queen cage is made of fine wire

cloth, 3¼ inches long, 1¼ broad, and half an inch wide, with a door on one end, having a wire attached to it, which on being pressed gently down, opens the door, and her majesty at once goes out, and is received gladly.

In conclusion, I may say that if the above mode of introducing queens is adopted and properly carried out, success will attend ninety-nine cases out of every hundred.—Benjamin Gregg, *Mauchline, Ayrshire.*

Two Italian queens, the first of their race which I have ever possessed, although always a bee-keeper, arrived all safe and right about seven o'clock at night. As it was a very hard frost when they came to hand, the next thing was to put them into their hives; and the weather being so frosty, I determined to put one of the queens in the same night. I therefore took No. 1 stock into a room, gave it a few puffs of tobacco, and closed the hive for a few minutes. The song of the bees told me when to commence searching for the queen, and on discovering I captured her, and put the Italian queen in a wire cage (a pipe cover), and fixed it on the comb, as described by Mr. Woodbury. She started to feed at once, and putting all the bees that had accompanied the queen into the hive, I closed it, and placed it again on its stand. Next morning all was peaceable and right.

Now for No. 2 stock. At noon next day I treated this in the same way, as it was still frosty, and put the queen in; but, to my disappointment, the bees worried every Italian that I put into the hive, so that there is not one left, and next day, on looking through the hive, it seemed all confusion, and on opening it I found that the queen cage was full of black bees, and the queen gone. I at once searched for, and on finding her, one of the black bees had her by one of her wings. I instantly killed the bee, and watched to see if I thought her safe or not, as the bees were running like wild things over one another. Two more set on her, but I killed them, and then caught her, and made her again a prisoner, as I saw she was not safe. I examined the comb that had the cage fixed on it to see how she had made her escape, and found that the bees had eaten down by the outside of the cage and up the inside to get to her, and that was the way she had escaped. I re-fixed her on a fresh part of the comb, and closed the hive again, and the bees continued so savage for four days that if I went near the hive they would dart at me from all directions. I opened the hive every day to see if the queen was still in the cage. On the fifth day they seemed more like settling. On the sixth day they were all clustered and settled, and on the seventh day I ventured to let the queen out, when they took to her, and she is now all right with her new subjects. In No. 1 hive I set the queen at liberty on the third day with every success, as I believe not one of her companions was killed.—M. A.

THE BACHELOR AND THE BEES.

A bachelor laird who resides in the *locale* of the Lomond Hills, in Fifeshire, having been presented with a jar of honey from a neighbouring cultivator of the soil and a bee-keeper to boot, became so attracted by the nectarious liquid that he resolved upon becoming an apiarian instanter. After considerable higgling he became possessed of a swarm of honey-gatherers and had them borne to his homestead this week, but owing to the severity of the frost, he, through a feeling of pity towards the insects, had them placed overnight in his bedroom and in front of a blazing big fire. The bee-master turned into bed to dream of flowery meads and ambrosial sweets, but towards midnight a drumming singing sound, as if a congregation of pigmies were at psalm-singing, aroused him from his repose. The entrance of the straw skep containing the colony had not been properly closed, and the swarm, thousands strong, were in activity around him! His loud cries for aid brought prompt assistance, but not without suffering keenly from the darts of the insects was he allowed to leave the room. Considerable difficulty was experienced in getting the bees returned to their former quarters, and the laird, having had enough of bee-keeping, has resolved never again to be so tempted by "sweets."—(*North British Daily Mail.*)

OUR LETTER BOX.

Game Fowls (*Hawkins*).—The book you mention is only reliable so far as the compiler obtained information from good authorities. We do not know what illustrations are used. There would not be a remunerative sale for the plate you wish for.

Books (*Australian Subscriber*).—There is no book with coloured or other plates devoted to Game fowls. If you enclose a post-office order for 13*s.*, with your address, and order the "Poultry-Keepers' Manual," and the "Poultry Portraits," you will have all we can help you to.

Crowing Pullet (*Henwife*).—There is a "sound unmusical" to poultry ears that approaches to a crow, but it is not one. It is not performed with "head and tail erect," but in a lack-a-daisical manner, with tail on the ground. It is about as much like a real crow as a sneeze is like a laugh. We never knew a hen crow when suffering from roup; the note produced is more like a long complaint. A crowing hen has an erect comb and a strutting air. We believe implicitly in the old saying—

> "A whistling girl, and a crowing hen,
> Are neither good for yards or men."

Buckwheat and Maize (*B. S. H.*).—Buckwheat is not good poultry food. Fowls will not eat it whole, and although it is used extensively in France for poultry purposes, it has not been found successful in England. The offal you mention is to be bought as "sweepings." It is handy stuff to throw down as feed, but in our opinion there is no economy in buying low-class food.

Ear-lobe of Silver-spangled Hamburghs (*Norice*).—The ear-lobe of a good Spangled Hamburgh cock must be white; any mixture of red is very damaging. Minorcas should have red and swarthy faces; this applies to all the breed. Silver-spangled Hamburghs do not improve as they get older, rather the reverse. The lobe of the cock should be white.

Plumage of Dark Brahma Pootra Cock (*Regular Subscriber, Ayr*).—It is common to have chestnut patches on the wing of a Brahma cock, but it should not, under any circumstances, amount to anything like a saddle. We do not think it is a cross, but we should not breed from him.

Hatching by Steam (*D. Wood*).—There is no separate work on the subject. There is a chapter and drawings of apparatus in the "Poultry-Keepers' Manual," which you can have at our office, price 7*s.* 6*d.*

Fattening Ducks (*F. C. S.*).—Your letter came too late to be answered in time to be useful to you. The best food for your Ducks would have been oats mixed with gravel, and at times oatmeal and bran. Many of the heaviest are made so by meat feeding. In our opinion the black streaks on the bill are unimportant; many of the best birds have it. A defective bill is one that is faulty-coloured throughout.

Food for Ducks (*J. S.*).—If your Aylesbury Ducks will not moult, it is probably because they lack condition and health. In such a case the body is fevered, and the skin by its heat dries up the pulpy stub of the feather. Ducks are not amenable to medicine, and the only treatment is by way of feeding. Give them oats, gravel, and bran, put in a shallow vessel, the bottom of which is covered with a sod of growing grass. They will eat that, and do well upon it, when they will eat nothing else. A good Duck and drake will weigh 12 lbs.

Sky Tumbler Pigeon.—"*Reader,*" after seeking long and in vain for this breed, inquires, "Where shall we turn our course of search for the Sky Tumbler Pigeon of pure English blood, untainted by Dove-house or the continental (Roller) strain admixture?"

Turkey's Head Swollen (*A. C.*).—We have known Turkeys attacked at all ages, but, as a rule, late-hatched birds are most subject to it. Your treatment was right; camphor pills would have been a good addition. They help to cure the disorder, and prevent it from being communicated.

Experimental Bee Hives.—"*An Experimental Bee-master*" writes to say that he wishes for "the appearance of some advertisements" of such hives. We can only say that we shall willingly insert them if sent to us.

Winter Management of Stewarton Hives (*Swanley*).—"Zinc, from its coldness, deleterious incrustations, besides draughts passing through the perforations, causes the bees much annoyance, as well as labour to stop up the perforations with propolis. It has, consequently, been long ago discarded from my apiary. Ten or a dozen years ago I was puzzled to ventilate a square hive whose sides were formed of glass all round. At last I hit upon the expedient of substituting, for the wooden slides between the moveable bars, strips of Cuba or India matting; and so thorough was the ventilation thereby afforded, even in the most severe frost, as recorded in "our Journal" at the time, that I forthwith condemned the wooden bungs and all other stoppers over the central apertures of my stock hives, and ever since have employed small squares of matting secured in their place with broad-headed small nails, and I find they answer the purpose admirably. My strongest Stewarton colonies, in the best situation and aspect of my apiary, are not interfered with, and do not suffer from dampness; but in the case of those in the more shady sheltered corners I invariably tack over the uppermost box an octagon piece of matting, and draw all the slides. Stocks here are placed in moveable wooden covers. Stewarton, like all other hives, must be protected by good warm outer coverings winter and summer. The invariable practice with Stewarton hives has been to remove the lower box or boxes, as the case may be, as soon as vacated by the bees, reintroduce the slides, wrap up the mouth with several pieces of paper to exclude dust and moths, and suspend in a perfectly dry loft or garret till the exigencies of the colony call for them the following season. Thus circumscribed, the bees get more readily out for their winter flights, breeding is promoted in the spring, and the lower boxes are freed from the falling debris and possibly excrements after long confinement. To keep the combs a little off the board I set my stocks on a shallow octagon eke 2 inches deep; fresh air circulates freely below, and facility is thereby afforded for feeding if required.—A Renfrewshire Bee-keeper."

Commencing Bee-keeping (*Amateur*).—All depends upon the object which you propose to yourself in commencing bee-keeping. If you mean to become a scientific apiarian you cannot do better than follow the example of "A Beginner," as detailed in page 354 of our present volume, and adopt the Woodbury frame hive. If, on the other hand, you intend only ordinary bee-keeping with the power of putting on an occasional super, Payne's improved cottage hive made somewhat larger than recommended in "Bee-Keeping for the Many"—say 16 inches in diameter, by 8 or 9 inches deep, will answer every purpose. Or you may, perhaps, find a *via media* in the Stewarton hive and mode of management. Spring is the best time for purchasing bees.

WEEKLY CALENDAR.

Day of Month	Day of Week.	DECEMBER 16—22, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
							m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
16	Th	Meeting of Linnean Society, 8 P.M.	45 7	34.1	39.9	14	2 af 8	49 af 3	45 af 2	52 af 2	18	4 1	350
17	F		45.9	33.4	39.7	19	8	49 3	16 3	59 5	14	3 32	351
18	S		44.9	32.4	38.7	19	4 8	50 3	53 S	5 7	○	3 3	352
19	Sun	4 Sunday in Advent.	42.9	32.4	37.6	16	5 8	50 3	40 4	8 8	15	2 33	353
20	M		43.8	33.5	38.7	15	5 8	51 3	37 5	4 9	17	2 3	354
21	Tu	Royal Horticultural Society, Fruit, Floral,	43.6	33.8	38.2	16	6 8	51 3	42 6	54 9	18	1 33	355
22	W	[and General Meeting.	44.7	32.3	38.5	20	6 8	51 3	54 7	34 10	19	1 3	356

From observations taken near London during the last forty-two years, the average day temperature of the week is 44 5°; and its night temperature 33.1°. The greatest heat was 58°, on the 16th, 1849; and the lowest cold 7°, on the 16th, 1853; and 19th, 1859. The greatest fall of rain was 0.87 inch.

FRUIT-GROWING IN FRANCE AND ENGLAND.—No. 2.

IT is an idea very commonly entertained, that the French are much more "carpophagous" than ourselves. The favourite idea of a Frenchman used to be, and I fancy to some extent now is, a lean, skinny human being, who was for ever kicking about his spindly shanks in dancing, who never ate anything more substantial than a dish of frogs' legs, and who was contented with merely an Apple and a "*petit pain*," if in humble life; if wealthy, that he lived on "unconsidered trifles light as air," which were commonly called "kickshaws" (*quelques choses*). Such was the "Johnny Crapaud" of our forefathers; while the French ideal of an Englishman—an idea we helped to make permanent—was an obese bloated-cheeked creature, who never could relish anything short of a sirloin of beef, as underdone as possible, and of which something under 2 or 3 lbs. would alone suffice to appease his appetite, that to be washed down with quarts of "*palail*" or "*portère*." Such was, and, I believe, still is, to many Frenchmen, John Bull. Need I say how absurd all this is—that you may meet as many fat, pursy little men on the Boulevards as in Regent Street—and that the little fat man in the last "Punch," landed in a field, and apostrophising his steed as "Mister Timberjumper," gives by no means an incorrect notion of him? And as to fruit-eating, I confess I cannot see, that with all the immense facilities of the French, with a country stretching down to the far south, and even to sunny Italy (since the cession of Nice), they are greater fruit-eaters than ourselves. I am sure the Halles Centrales do not contain each morning anything like the supplies that Covent Garden does; the superior fruits, such as Pines, hothouse Grapes, and forced Peaches, are not to be seen; you can only see them in a few shops in the Palais Royal and the best parts of Paris. They have larger quantities of Melons and Figs, but then we beat them hollow in Gooseberries, Currants, and small fruit generally. You dine at a table d'hôte, what fruit do you see there? Generally a large dish of Calville Blanche Apple—a, to my mind, very much overrated fruit, and not for one moment to be compared with a Ribston Pippin or a Nonpareil; to this is added a dish of Duchesse d'Angoulême or Beurré Diel Pears. These are taken off, a few (in proportion to the number of guests) cut up, and about one-eighth of each considered as a fair quantity. Dine in a French house, and you will find the fruit at dessert bears no sort of proportion to the other accessories, while with us it is the main supply, other things being only accessory thereto. I have no means of ascertaining the relative proportions of fruit sent into London and Paris, but I am inclined to think, from what one sees, even taking into account the vast difference in size of the two cities, that there is a great deal more consumed in our metropolis than in Paris; for while in Covent Garden, in the early morning, you see it brought in in huge waggon loads, you rarely see at the Halles more than a light cart; in fact, I think the quantity much less. Fruit puddings and tarts, which form so usual an item in the fare of every family in this country, are unknown almost in France, and I am strongly of opinion that this idea of the French being so much more fruit-eaters and less flesh-eaters than ourselves, must be relegated to the same limbo of exploded notions as the idea that every Frenchman is a thread paper, and every second member of the community a dancing-master.

And now as to climate. As I have previously remarked in my notes on the vegetable culture of the two countries, there have been broached more wild and ultra notions on this important subject—important in its bearing on vegetable produce, but much more so in its bearing on fruit-ripening. Some have stated that there is no manner of difference, that the climate of Paris in no way differs from ours, and that if it did, it would be in our favour; that tho winters are colder, and the summers hotter and drier than our own; and that to make this an excuse for not having as good fruit as theirs, is merely the result of ignorance or laziness. On the other hand, there are those who tell you, "Oh! it is of no use talking of comparisons in fruit-growing. See what a splendid climate they have; what brilliant skies; how free from those nasty spring frosts that destroy our fond hopes of a fruit crop. Oh! of course, theirs is a most favourable climate for fruit-growing; no wonder that they have such fine productions." All wrong again; in fact, as in a great many cases, truth lies midway between these two extremes. There is a great similarity in the climate of Paris and London, but yet with all that there is a great difference also: the winters there are, no doubt, colder than ours, the frosts more severe, and the early spring frosts quite as treacherous; the Peach-growers of Montreuil can no more dispense with their "*paillassons*" than we can with our curtains and other protectors. The summers, too, are warmer, and it is in this that the great advantage consists. There is, as I have once before said, not more than 2° difference, but then it is a difference not of mere warmth, but of light and sun, and how much that avails in fruit-ripening we all know. There are just one or two simple facts that I would mention, as illustrating this fact. It is very rarely that the Grapes do not ripen in the open air in the neighbourhood of Paris, and that not merely on walls, but on trellises and espaliers. How often do our Grapes ripen even on walls? the Chasselas de Fontainebleau or Royal Muscadine being the kind most generally grown there, not nearly so hardy as many Grapes we see on cottage walls and outhouses in the south of England. Again, the large Cantaloup Melon ripens in immense quantities in the open air about Paris, not exactly grown there, for it is first grown in frames, and then the glasses removed, and the fruit grown and ripened without protection. It would hardly be possible to do this, I should fancy, in the neighbourhood of London. Now, I contend this gives a great advantage to the Peach-grower, but I am not so sure that is of much account in Pear and Apple culture. The same notions with regard to climate have prevailed concerning Jersey and Guernsey; but a writer long resident there has shown that this is a mistake also. My conclusions, then, on this much-vexed question

of climate, are these: that the Parisian growers have an advantage, but by no means a great one in this respect, and that it ought to tell in the superior quality of their fruit—whether it does so is another matter—and that were I growing for profit, I think I should, taking all things into consideration, be as ready to engage in the business in the neighbourhood of London as in Paris.

Having thus touched on these preliminary questions, I shall be ready now to enter on the subject of the cultivation of those fruits which especially claim our attention.—D., *Deal.*

FORCING PEACHES AND GRAPES IN POTS.

What a subject to approach—ripe Grapes and Peaches in April and May, by a self-taught amateur, and a mere dabbler in gardening; why, I can scarcely believe that I have done such things, but I have, and as the matter is so simple, and the operation incredibly easy, I must try and make it so in print. I must acknowledge to being a young gardener, for when between forty and fifty I rarely turned my attention to the art, and scarcely knew when to sow Peas or Onions. At seventy I am becoming an accomplished gardener, and by consulting my "Keane" once a-week all the summer, I know when to sow Lettuces and Leeks, and early and late Peas. I had a fine crop of Ringleaders the whole of last October, so that for the second time we were tired of green Peas.

To commence my subject in order, I must describe my forcing house. It is a lean-to, 70 feet long, and 10 feet wide, from 9 to 10 feet high at back, and from 4 to 5 feet in front. Its walls are of 9-inch brickwork; in the front wall there are sliding shutters, 3 feet by 1, placed 6 feet apart; in the back wall, quite at the top, and close to the upper ends of the lights, are sliding shutters of the same dimensions, and the same distance apart. These shutters, front and back, are quite necessary, as the lights are all fixed. They were formerly sliding sashes belonging to a lean-to greenhouse built by my father just seventy-two years ago, and the sash-bars are now like iron. Those old builders used rare timber.

Inside, a path 2½ feet wide is in the centre, and on each side is a raised bed, with 4-inch brickwork, the back one 3 feet high, that in front 2½ feet high. The latter is filled with earth up to the under surface of the 4-inch hot-water pipes, of which there are three resting on the mould. The border at the back of the house is also filled with earth, in which are planted diagonal cordon Peach trees trained to the back wall; in front of them, at intervals of 3 to 4 feet, are placed some low bush Peach trees in pots. On the hot-water pipes in front are placed Vines; these are shortened to 4 feet, and have eighteen fruiting buds on each. These Vines, like all here, have been trained close under the glass roofs of the houses, so that they are "short-jointed" and crowded with fruit buds. They will be allowed to bear from ten to twelve bunches each. Their treatment is as follows—they are placed on the pipes in the 11 and 12-inch pots they have grown in during the season, the soil is stirred to the depth of half an inch, and levelled so as to admit the water properly, and a slight dressing of chopped decomposed manure about half an inch in depth is placed on the surface. This is all the preparation required. As soon as the young shoots are some 6 inches long, the usual surface-dressing of horse droppings two-thirds, and of kiln dust one-third, saturated with liquid manure, will be given to 1 inch in depth. This will be repeated—say once a-month, till the fruit commences to swell, and then as more food is required, pieces of slate will be stuck in round the inside of the pot to support fresh surface-dressings. I may mention, that in default of kiln dust, one of the safest and best of stimulants, decomposed manure only, chopped, and saturated with liquid manure, may be used. I may here remark that I have so many inquiries made for kiln dust, so abundant in this malt-making village, that I have suggested to our chemist and druggist, Mr. Truswell, to have it ready in four-bushel bags for sale at a moderate rate. He will, I hope, advertise it in your columns.

This is now the fifth year of my Grape culture on 4-inch hot-water pipes, without any plunging material whatever, and with unvarying success. The pipes are generally at a temperature of 120° to 125°. The vigour given by this powerful dry heat is extraordinary. A Vine of the Madresfield Court Muscat in an 11-inch pot, with from 4 to 5 inches of surface-dressing, and standing on a single 4-inch pipe, made last summer four shoots of the aggregate length of 60 feet, stout, and full of fruit-buds. On examining the roots at the bottom of the pot in contact with the pipe, they were found to be large, succulent, and full of life; the fibres seem forced up by the heat or drawn up by the rich surface-dressing. I should mention that the shoots of this Vine, being required for propagation, were not shortened till each had attained the length of 15 feet.

Peach trees in pots for forcing are treated exactly as recommended for Vines, but they must not be placed on the hot-water pipes, but on the front border some 2 feet distant, and on the back border. In this inartificial house and by such simple treatment, I had last spring Early Beatrice and Early Louise Peaches ripe in May, closely followed by some other kinds. As I did not commence till January, and have this season commenced forcing December 5th, I hope to have them earlier, and the same with Grapes.

I have described accurately my house and my doings, and now suggest some improvement in the building of an early forcing house. It may with advantage be 12 feet wide, with four 4-inch pipes resting on the front border, and by making the border at back 3 feet wide only, two or more pipes may be placed against the wall supporting this border at the back of the house, not flatwise as in the front border, but in the usual way; they would not then interfere with the trees trained against the back wall. A house 12 feet wide could thus be arranged:—Front border 6 feet wide, path 3 feet wide, and border at back 3 feet wide. This would give room for many articles to be forced, particularly Roses and Strawberries. The latter I now place in front of my Peach trees on the back border, and have two or three crops during the spring. The treatment of forced Vines and Peaches as to syringing, &c., is so often given in your columns, that I need not mention it here.

I have but little to add, but that little may be of use to some of your readers. My house is heated by a 24-inch Arnott stove boiler, its cost 45*s.*, set inside, with a feeding cistern over it. Its setting is very simple, and after the manner of a washing-copper. The Vines are placed from 3 to 4 feet apart, and as they are only 4 feet high, and will be pinched-in closely, they will not shade the Peach trees injuriously. The bush Peach trees are from 2½ to 3 feet apart; the diagonal Peach trees on the back wall are 2 feet apart. An 18-inch Arnott stove boiler, costing 35*s.*, would heat a house 25 or 30 feet by 12, and what an amount of interest and luxury in forced fruit could be gained from such a house!

When a youth I looked upon the gardener who produced ripe Peaches and Grapes in May as a sort of demi-god, so mysterious seemed the science of forcing; now I am old I am surprised at its simplicity.

There are a few rules to be observed worthy of a thought, and even worthy of recapitulation.

1. Peaches and Vines to be forced should not be repotted. I have known them to bear fruit in spite of their roots being disturbed, but they are better left alone. The additional food wanted by the tree I prefer to give on the surface.

2. While Peach trees are in bloom abundance of air should be admitted, a little even by night. The Vines do not require this, but they do not mind it.

3. The Vines on the hot-water pipes will require abundance of water, which will run through the mould like a sieve. It is good practice to make the surface quite firm with a blunt stick, using it as a rammer.

4. Peaches will not require so great an abundance of water, but it is well, say in March and April, to make the surface-dressing firm.

5. A lean-to house may be economically employed to force Vines and Peach trees in pots without placing the former on hot-water pipes. A house 12 feet wide, heated by three 4-inch pipes in front, and three at back, placed over each other in the usual way, would do very well.

6. The boilers I have mentioned are made by Mr. Hughes, Bishop's Stortford. They are the best and cheapest of boilers for small houses. Their sizes are 14, 16, 18, 24, and 28 inches. The former will do for a very small house.

And now for my apology. I should not have troubled you with this had I not been much importuned by friends to give them some safe directions how to force Vines and Peaches, and so if you kindly admit this I shall be much relieved, for I shall refer inquirers to your columns.—Thos. Rivers, *Bonks Hill, Sawbridgeworth.*

Oxalis tropæoloides.—I have grown this for years; it is perfectly hardy. At first I kept a large supply of cuttings, and still keep a few for early planting; but I never fail, in spring,

to find an abundant crop of self-sown strong plants. The situation is in the north-east of Scotland, 700 feet above the sea level.—H. C. T.

AMONG THE ROSES.

Every rosarian looks with much interest for details of experiences with Roses during the blooming season; it is by the summing-up of these results that plans can be arranged for the future, certain sorts be selected for cultivation, and some be rejected; and so the cultivator passes onwards to another season's work, having, in addition to his own sum of results, the experiences of others by which to plan, purpose, and accomplish.

It may be asked, What have we in the way of good autumnal-blooming Roses? for what can be more agreeable to the rosarian than to be able to cut good blooms even up to that time when

"The rime lies on the Cedar boughs, the hoar frost on the eaves?"

We can appreciate them at that season more calmly than when our eyes were dazzled by their overpowering splendour, our attention distracted by their infinite number, and we cling to them fondly because so soon to leave us.

Looking through Mr. William Paul's nurseries at Waltham Cross about the end of September, I was enabled to note the following as fine autumnal bloomers among the Hybrid Perpetuals—viz., Alfred Colomb, bright fiery red; Alfred de Rougemont, a fine dark flower, which might be described as bright deep crimson shaded with purple; La Duchesse de Morny, a beautiful and delicate shade of rose colour; La France, a fine autumnal Rose, producing splendid blooms; Le Rhone, a very fine late variety, and a rich hue of colour; Lord Macaulay, bright deep crimson, very good; Madame Alfred de Rougemont, a capital white Rose, blooming in large clusters; Madame Victor Verdier, a Rose of which, Mr. W. Paul observed, too much cannot be said in praise, colour rich bright crimson; Madame Elise Vilmorin, scarlet crimson, large and very fine in the autumn, but of imperfect shape; Prince Camille de Rohan, dark crimson maroon, distinct in colour and very free of bloom; Souvenir de Dr. Jamin, very dark, of a deep bluish violet hue, distinct and fine; Souvenir de William Wood, dark shaded maroon, a fine autumnal-blooming variety, but apt to burn in the summer, and should not be included in a list of summer Roses; Turenne, a very pretty and pleasing hue of rosy red; and Victor Verdier, rosy carmine, but which comes much deeper in colour in the autumn.

Of the group of Bourbon Perpetuals two were especially worthy of notice—viz., Madame Gustave Bonnet, a very fine and beautiful flower that comes deep flesh-coloured when it first expands, but changes to pure white as the blooms reach maturity, and so profuse of bloom that the plants appear covered with buds and flowers; and Michel Bonnet, rosy peach, also very free of bloom.

One great lesson taught at Waltham Cross was, that there is nothing like the Tea Roses for autumn work, and they were very beautiful, old Gloire de Dijon yielding magnificent blossoms, as if defiant of the oncoming of winter with its frosted brow and sure destruction; but as all Tea Roses produce light flowers, there is much need of the showier and darker hues of the Hybrid Perpetuals to give them life and pleasant contrasts. As a bedding Rose Mr. W. Paul strongly recommends Souvenir de Malmaison, both as a free and continuous bloomer, and as being as fine late as it is early in the season.

Of the new Roses of 1868-69 the following small but interesting group should be noted by cultivators:—Leopold II., clear rose, slightly tinged with salmon, of fine form, large and full, and of vigorous growth; Madame Creyton, one of the very best of the new Roses of this date, the flowers having a deep rose centre and an edging of rosy lilac; flowers large, smooth, and very fine, and a somewhat late-blooming variety; Monsieur Journeaux, a fine deep reddish crimson flower, flowers of good form, plant of vigorous growth; Marquise de Gibot, pale bright rose, flowers globular and of good substance, and a constant bloomer; Marquise de Mortemart, alabaster white, tinted with delicate flesh in the centre, flowers large, growth vigorous, said to have been raised from Jules Margottin; and Perfection de Lyon, rose, the reverse of the petals silvery lilac, full, good shape, and to be depended on. Of the 1867-68 batch, Impératrice Charlotte, beautiful, pale rose, clear and delicate, flowers large, full, and freely produced, and of abundant growth, was one of the very best. All these belong to the Hybrid Perpetual division.

No one could, or at least should, think of going to Waltham Cross without inspecting the house of Tea and Noisette Roses ere he leave. That house is always a charming sight when the plants are covered with those exquisite fragrant flowers of so many tints of yellow. Scarcely ever without flowers, there are yet certain occasions when some kinds stand out distinctly from their neighbours because of their superb beauty of development. On this occasion I saw Solfaterre, very fine; Souvenir d'un Ami, also; President, carrying some fine flowers; Cloth of Gold, still in bloom, but not so grandly as it comes during the summer months proper—a variety, however, that must not be depended on for autumnal work; Belle de Bourdeaux, a rose-coloured variety that makes an excellent climber; Marquise de Foucault, a nice-looking Rose in a house, but the flowers are not quite double, and hang their heads so that they cannot be seen to the best advantage; Jaune d'Or, buff centre, the outside petals flushed with rose; and Climbing Devoniensis, respecting which Mr. Paul says that it blooms most profusely after it has been two years budded on the Dog Rose.

And now that the chill evenings have come, and curtains are drawn, and bright fires glow, who is so happy as the Rose-grower with the new catalogues before him? And it may be added in full truth, especially at that season of the year when festive occasions recur, and the wreaths of crimson-berried Holly garland the head of Christmas.

"What reeks it then that Nature's face is wreathed in crown of snow,
Or that the crimson Rose of June within her grave lies low?
Are there not springing in our hearts perennial flowers still,
Glad evergreens, bright evergreens, of friendship and good will?"

—Via.

HINTS TO COTTAGE GARDENERS.

In giving some advice to cottagers on the cultivation of a few vegetables for exhibition and other purposes, I shall confine myself to a limited number, commencing with the Onion.

It is well known that in some kinds of ground you may grow Onions to great perfection with little trouble, whilst in other situations it is almost impossible to grow them, or stay the sad havoc made by grubs in the early part of the season. An experienced gardener once told me it was a great advantage to sow early, and in this I quite agree. All Onion beds ought to be manured in the autumn, and sown, after being well trodden, in February, if the weather will permit. For preventing the attacks of the grub many things are advised; the most simple is a good dressing of soot, which is generally advantageous, but the grub that attacked the Onions during the drought of 1868 never flinched under soot-dressings in any quantity, and this season, having had the misfortune to sow on new land, which ought never to be done, the grub has been very destructive. A remedy which I have tried and can recommend is to boil an armful of Tansy, and water the bed with the liquor. I applied to one-half of a trial bed of six varieties another valuable mixture; this consists of soft soap and sulphur, a good handful of each, and two or three handfuls of soot, the whole mixed in a good-sized watering pan. The half of the bed to which this mixture was applied gave a fair average crop, while the Onions in the other half went entirely off.

In choosing the kinds worth growing, it cannot be too strongly impressed on the grower that inferior sorts occupy the same extent of ground. Nuneham Park is a first-class Onion, and has won with one exception wherever I have known it exhibited. The exception was when a gardener, who has grown it largely, set up six of the finest I had ever seen at an exhibition; there were thirteen competitors, and, to my surprise, he only took the second prize, the first being awarded to Bedfordshire Champion, sown, I was informed by the exhibitor, in the first week in February, and there was no dispute that the latter well merited the honour, and from having seen it grown elsewhere I have no doubt it is a great acquisition.

Peas.—For cottagers' use I would entirely discard the earliest varieties. Maclean's Advancer is a fine second early that I would recommend, and, being of a branching habit, it need not be sown so thickly as many cheaper varieties. Wonderful well deserves its name; it is one of the very best of croppers. Princess Royal is a cheap and useful sort, and should you fancy one of the tall sorts, Ne Plus Ultra is a fine Pea for exhibition purposes. Commend me to Veitch's Perfection for flavour; I almost fancy it stands in the first position. Do not sow it as usual, but plant the Peas like Beans, not less than 3 inches apart. Take off all damaged pods, and cut one off all double straps, and you will be surprised at the size and quantity of Peas you will obtain. Sow fifteen or sixteen weeks

before the crop is wanted, but it is better to sow twice. There are, no doubt, many other good Peas, but those named will give general satisfaction.

It does not seem to be generally known by cottagers in this northern part how prolific and what a fine dish Dwarf Kidney and Runner Beans are, otherwise they would be more generally grown.

Red Cabbage.—I think I may safely state we have in this neighbourhood the finest variety to be found in any part of the kingdom. It was raised by Mr. George Stockly, of South Hill, Chester-le-Street. It is well worthy of the attention of growers, as there can be no doubt about its quality, and it grows close to the ground. It may seem incredible, but heads have been grown to 42 lbs. weight. He intends to sell the small quantity of seed he has in stock in packets at 1*s.* each. Give the plants plenty of manure and sewage. If you have a good sort they are easily grown; if not, save yourself the trouble of trying. Should the grub attack the roots, apply the sulphur mixture as advised for Onions, and the plants will root afresh surprisingly.

Celery needs few words from me, as readers of your Journal are receiving plenty of information on the subject. Plants raised early in heat ought to be well protected from cold winds, or they are apt to become stunted, and are almost sure to bolt. You can scarcely give too much water. Use plenty of salt, and you will greatly improve both crispness and flavour.

Leeks, raised in heat, must be protected like Celery; give them plenty of sewage manure, for the ground can hardly be too rich. Plants from seed sown in the bed will occasionally prove better than those raised in heat, are not so apt to bolt, and for late use I prefer them.

Potatoes.—The favourites in this district are Lapstone Kidney, Gipsy Queen, round white, and the Gosforth Seedling, red.

Carrots and Beet.—Trench in the manure a good depth in the autumn. There is little fear but the roots will find it, and doing so to a great extent prevents their forking.

If not occupying too much of your space, I would like to urge the claim of small birds. A strong sympathy prompts me to advocate their cause, and in doing so I will not bring to the front those tribes that are the acknowledged friends of the gardener, but rather try to prove that the linnets and blackbirds are not our enemies but friends. It is annoying, I admit, to have our seed beds plundered by the white and green linnets; but, observe, those hard-billed plunderers subsist all the year round on small seeds, and but for these it would be simply impossible for our farmers to suppress the weeds or secure a crop. We all know the crow loves to abstract a Potato now and then, or treat his palate to a few grains of Wheat early in spring; still, he lives five months of the year entirely upon grubs, and I think handsomely repays his occasional depredations. The sparrow assists in disbudding our bushes, and is not so intent on the destruction of grubs as we should like to see him, but if equally divided his depredations are not so great after all; but where gardens and farm buildings are contiguous, I am afraid I must fall back on his diligence in acting the part of scavenger, which saves us from swarms of flies. I had that best of friends, a mother; she used to say she loved the sparrow, for he always sung "cheer up." The blackbird seems never so happy as when perched upon a tree of ripe Cherries; he feeds all the rest of the year upon grubs, excepting during the deep snows of winter, when a kind Providence supplies an abundance of haws and other wild fruit. Though in hard weather it may occasionally disbud his Plum trees, does it not delight the gardener to see the little bluecap sit so intently examining every branch, peering into every hole, with a seeming determination that nothing shall be left undone on his part to protect them from the ravages of the grubs which would emerge in spring?—Joseph Witherspoon, *Chester-le-Street.*

OPEN-AIR GRAPES.

We had again to thank the Rev. George Kemp for being the means of causing a very interesting display of Grapes grown in the open air to be made at a recent meeting of the Fruit Committee of the Royal Horticultural Society, at South Kensington, Mr. Kemp having on that occasion offered "prizes of £3 and £2 for the best six bunches of Grapes, grown in the open air without any protection whatever." We have to thank Mr. Kemp for his disinterested generosity in this matter, for his laudable endeavours to improve our out-door Grape culture. His is an example worthy of all commendation. We can only wish that by his kindly encouragement a little more attention may be paid to this much-neglected branch of gardening.

The exhibition of October 19th was in all respects a creditable one, if in point of numbers it did not equal that of last year. The fruit was in many instances superior, and this, too in a season not by any means favourable for Grape culture; last year, on the contrary, being one of the most favourable ever known. In 1868 the first prize was awarded to Royal Muscadine, the second to Black Hamburgh; in 1869 both the first and second prizes went to the Royal Muscadine Grape, thus again stamping it as the variety best suited to our climate, and most worthy of cultivation. The Grapes which obtained the first prize, exhibited by Mr. Miller, gardener to J. F. Friend, Esq., Northdown, Margate, were especially fine, the berries as large as well-grown hothouse fruit, and of most excellent flavour, with a little of that beautiful rosy tint so valued by the French. For comparison with our English fruits, Mr. Spinks (lately one of the students at Chiswick), jardinier-en-chef at the Château de Chantilly, near Paris, sent some examples of his own growth of the Chasselas de Fontainebleau (our Royal Muscadine), the Grape which Frenchmen prize above all others. These, although stated to be somewhat superior to the fruit ordinarily to be met with in Paris, suffered by comparison with the English productions of Mr. Miller. They bore somewhat more of the russety hue, and were, perhaps, a trifle riper. Mr. Miller's examples were, however, far larger in both bunch and berry, and nearly equal in flavour, as were also those from several other exhibitors. This contribution of Mr. Spinks proved extremely interesting, showing by direct comparison the difference between the fruits of the two countries. It was there shown that by a little extra care and attention in favourable localities, in ordinary seasons, we can in the open air of our own country produce Grapes nearly equal to the best of those at Paris. We are so prone to vilify our climate, and praise up the sunny skies of France, that unless facts to the contrary are laid before us we refuse doggedly to believe it, and thus fail to make the most of our own material.

It is worthy of remark that in the warm season of 1868 a great many varieties of Grapes were exhibited besides the Royal Muscadine—viz., Black Hamburgh, Black Prince, Espiran, Burgundy, Frontignans, &c.; whilst in the colder season of 1869 all of the exhibitions, excepting one Black Prince, which was very unripe, consisted of Royal Muscadine. The Black Hamburgh, Black Prince, &c., have not ripened well in the open air this season, yet the Royal Muscadines exhibited were fully better this year than they were last, thus affording another proof that it is the main variety to be depended on. It is also an excellent wine-making sort, as evidenced by the first-class certificate awarded to Mr. Fenn for his Royal Muscadine wine, in preference to that made from the Espiran and the Muscat of Alexandria.

I may here announce that Mr. Kemp intends still further to encourage the open-air cultivation of the Vine by again offering similar prizes, to be contested for next year at the last October meeting of the Fruit Committee; Mr. Kemp's desire in offering these prizes being to encourage amongst the humbler classes of the community a love for the cultivation of their own Grape Vines, so that the labourer in his cottage, with his family, may be able to enjoy their dish of Grapes grown around their own doors as well as my lord from his extensive vineries. Such good deeds, so quietly done, merit their own reward. They tempt us to hazard a wish for many more Rev. George Kemps.—Archambaud.

THE NEW ROSES.

I have for some time given up the notion of attempting to convey any idea of the Roses which are being brought out year after year across the Channel. I have been so often disappointed, seen flowers of which I had hoped so much turn out worthless—seen, also, flowers of which no one had ever heard anything take a foremost place, that one gives up in despair forming any estimate. Of late years I took as a safer guide the names of the raisers, and from their doings in past years argued as to the present. But even this was deceptive; and now the lists come over to us without the names of the raisers, so that even this opportunity is denied us. Even if one goes over to France the attempt is almost hopeless; the Roses at Lyons, where a considerable number of the new varieties are raised, are fully ten days or a fortnight earlier than those about

Paris, so that anyone would have to spend a considerable time in attempting to see them all; and then, even if there at the time, the bushes are so cut about for stock, if the kind be really valuable, that the flowers are either very scarce or give a very inadequate idea of their true character. As to relying on the character given by the raisers, why, they are all charming, magnificent, splendid, perfection, &c.

I was not in Paris this year until August, and consequently could not see any of the Roses, although the season was a very late one, and heard but very little; but there were two of which I heard a good deal, and when others than the raisers praise flowers—alas! such is human nature—we may be inclined to believe that there is something in them. One of these was *Louis Van Houtte*, raised by Lacharme, the raiser of Charles Lefebvre, and in which, if the description be anything like it, we may expect a worthy rival to that noble flower. The other was *Unique*, a Tea Rose, raised by Guillot fils, who has already given to us Madame Margottin, Adrienne Christophle, and Marie Sisley, and which is described by the raiser as of an entirely new character. There are already before me lists of between fifty and sixty Hybrid Perpetuals, about a dozen Teas, two Noisettes, three Bourbons, and a few in other classes. Now who is to decide as to which are the prizes and which the blanks in this long list? I for one cannot. We all know the prizes will be few. We are promised of white Roses, Blanche de Mera, Elise Boëlle, Madame Liabaud, Perle Blanche, Reine des Beautés, and Reine des Blanches, but whether they are better than Virginal, Mdlle. Bonnaire, Baronne de Maynard, &c., is doubtful. Then the rose, cerise, satin-like rose, &c., are in numbers. It would almost seem as if the French growers could adapt themselves to our wants. At one time we were all for crimson and dark Roses; but at last the cry was, "Hold! Enough! We want light-coloured and white flowers." And lo! as if by an enchanter's wand they flock in upon us, nor can we say without giving us something of real merit. Monsieur Noman and Baronne de Rothschild are sufficient to show us that. We must look forward, then, in hope. It is our good friends the nurserymen we must pity. What a perplexity they must be in! They cannot possibly order all. Which shall they leave out?—which propagate most of?—must be anxious questions, and I believe private information, or even personal survey, will help them very little. Happy they who are not thus tortured, and calmly wait their verdict.—D., *Deal*.

WINTER BEDDING PLANTS.

(*Continued from page* 432.)

It must not be inferred because common and easily-grown herbaceous plants are recommended that shrubs are objected to; on the contrary, where shrubs can be obtained for winter bedding there is no question that they add materially to the general effect. As I have expressed an unfavourable opinion as to keeping plants in pots for winter on account of the attention they require at a time when other things want looking after, I will here restrict the list of plants suitable to such only as transplant well; for, be it observed, they have to undergo that operation twice a-year. The better class of ornamental Hollies will not endure this treatment, and some of the Cypresses are equally bad transplanters; on the other hand, the common Aucuba will bear removal any month in the year, and the other plants here mentioned are also very accommodating in this respect.

Box.—Plants of different sizes are very useful, the tree Box being much prettier than the edging or the intermediate variety; the gold-leaved variety, so called, is not half so good as the plain green, having only a sickly look at a short distance off. A partially-shaded place during the summer is best, but not too much so, otherwise the shoots become too tender to bear the cold blasts after planting-out in October or November.

Irish Yew.—A few plants of this are often useful as centre plants for circular beds. In general it transplants very well, the thickly-matted roots retaining a ball of earth of sufficient size to keep the plant in good health all the winter, and in spring it can be taken back to its place with very little loss. In some cases, however, it may be advisable not to remove it again for eighteen months, missing one year.

Arbor-vitæ.—Like the preceding, this removes very well, and being faster-growing and more easily propagated, plants can be had for the ordinary filling-in of beds, and where variety is wanted they answer very well; but I am not very partial to it, as the plants are not of so lively a green as Box and some other shrubs, but they transplant well.

Laurustinus.—It need hardly be said this plant does not like to be twice removed in one season, but it will bear the ordeal once very well, and young plants loaded with flowers look well in a mild winter like last one, when even Camellias were in excellent bloom out of doors in December and January; but in exposed situations it is not desirable.

Santolina incana (Lavender Cotton).—This plant is not so much used as it deserves to be; its silvery foliage fits it especially for winter, but around shrubs we have permanent edgings of it which are much admired; they are cut-in rather severely in August, and make fresh foliage, and look well all winter. For plants intended for the winter garden a number of cuttings put in, say, about September, root during the winter and early in spring, when they may be planted out in some poor piece of ground well exposed to the sun, and by autumn they form neat stocky plants. This plant is one of my favourites for the winter garden.

Retinospora ericoides.—The beautiful violet tint which this plant assumes in autumn and winter entitles it to more notice than it often receives, and the impression that it only thrives in a peaty soil is certainly an erroneous one, for here it does well in a soil exactly the reverse; and having a number of plants of it not all wanted for permanent positions, I have for several winters had some taken up in autumn for the winter beds, and with a successful result; at the same time I cannot say they have all done so well when removed again in March.

Stachys lanata.—"A summer plant," some will say, but it is, nevertheless, a winter one also, and does good service with very little trouble. In most places some plants of this will be found in the shrubbery or some out-of-the-way spot; these being pulled to pieces not too small, each with sufficient root at the layer-like stalk end, may be planted in separate patches, and they look tolerably well, but certainly not so well as the variegated Arabis mentioned in my previous article, but being a plant easily obtained it may be tried with advantage.

Saxifraga hypnoides.—I am not sure that this plant is so well adapted for winter as for a permanent position on some shady rockwork, but in an emergency it may be tried. It is a low mossy-looking plant, of an intense green, and looks well in winter.

Saxifraga rotundifolia.—I am not exactly sure whether I have given the true botanical name to this plant, but it can never be confounded with the first-named species, as this has foliage as large as that of a full-grown Beet, but of a bright green hue. Its flowers are pink, forming a large spike sometimes a foot long. Occasionally I have used this plant, but severe weather injures it very much, and I would hardly advise its use excepting where variety is wanted.

Sedge.—Yes, the common Sedge of the ditches, which, with the exception of Helleborus fœtidus and Arabis albida variegata first mentioned, I believe we patronise more extensively than any other plant, and at a little distance it is easily mistaken for Tritoma, or something of that kind. As a plant it may be said to cost nothing; nevertheless a little attention is due to it, and in the summer, say about the beginning of August, it is well to look round the ditches to which cattle have not access, and cut off the the tops of a number of plants; the after-growth will be shorter-leaved, and more suited to the purpose. The fine spreading habit of this plant well suits it for winter bedding, while in the sun its foliage shines beautifully. I need hardly say it transplants well, and until the dry winds of March set in its foliage seems unimpaired, provided bushy short-leaved plants have been selected. The longer-leaved ones are equally hardy, and look as well at first, but heavy showers break them down. The common Sedge is one of the most useful plants I know for winter decoration, and I have used it for many years.

Sedum glaucum.—This small, low-growing, compact little plant can only be used to advantage as an edging, or in very small beds, where it may be worked into any fanciful figure that may be desired. It is quite hardy, and any overgrown edging (and this plant spreads very fast), may be appropriated for the purpose with advantage. Its pale grey hue is on the whole pleasing.

Iris.—A variegated variety of the evergreen class can be worked in very advantageously where the situation is suitable; but it is not so hardy as some of the plants named above, still I have in past years had recourse to this plant.

Golden Feather Pyrethrum.—My experience with this only dates back to last winter, in which it survived and looked well, but it wants going over from time to time, as it pre-

sents a certain amount of dead foliage which requires clearing off; in mild weather, however, it looks well, and as it is easily obtained from seeds, and probably the plants doing duty in summer may also be made to do so in winter, as in my case, there will be difficulty in obtaining sufficient plants for all purposes. It seems to bear transplanting very well, and with me is quite hardy.

AUCUBA JAPONICA.—It is only necessary to say that this is one of the very best shrubs I know for winter bedding, transplanting readily, and looking well the whole of the winter. It propagates easily from cuttings put in during October.

AUBRIETIA PURPUREA VARIEGATA.—This pretty-growing plant seems well adapted for winter decoration, and answers that purpose well, but I have not had sufficient experience of it in quantity to speak of its effect in the distance; for close inspection I know of nothing more effective.

STIPA GLAUCA.—This grey-coloured Grass is effective, being of stiff and upright growth, and so is a kindred species FESTUCA GLAUCA. Both are adapted for winter. I am sorry I cannot speak so well of Dactylis glomerata variegata, which somehow has never done well here.

ARTEMISIA ARGENTEA.—I cannot recommend this plant until I have had further trial of it; its foliage is all that can be desired, but it seems not to be so hardy as desirable.

ALYSSUM SAXATILE VARIEGATUM.—This is a handsome plant, both in flower and not; but like most variegated plants it does not flower so freely as the plain-leaved, but is on that account the better for winter use; as the time it has to be removed being about the time of its flowering, some reluctance might be felt at transplanting it when just coming into beauty.

VARIEGATED THYME.—A pretty plant that may perhaps be worked in to advantage, but I have not used it.

VINCA ELEGANTISSIMA.—I have not used this for winter decoration for many years, in consequence of its being a prominent feature near the spot where winter plants are wanted, but it answers well.

PINKS.—Bushy plants of these look well where they can be had, their appearance in winter being good, and if only grown for that season, seedlings of some common kind might, perhaps, be quickest grown. I generally use the plain white, which strikes more freely and grows faster than better varieties.

Amongst other shrubs which we have at times pressed into winter service, Cupressus Lawsoniana has answered more than once admirably; the Red Virginian Cedar not so well, but I have not had so much experience with it. The common Laurel has also occasionally been used, and in favourable seasons has answered well; but Berberis Aquifolium and Darwinii are less satisfactory. Perhaps, however, by frequent planting they might become inured to transplanting, but it is likely to be at the expense of their healthy appearance. Rhododendrons and other American plants not being adapted for our soil have not been tried. A friend of mine, however, produced a very pleasing effect with the common Heath from a neighbouring waste. Single plants that had been cropped into a suitable shape by animals grazing them, looked tolerably well when introduced into the flower beds, and possibly other common plants might be found serviceable.

As the object of winter gardening is to present a furnished appearance in the flower beds from the time the summer plants are over up to the middle of March, when all are expected to be removed, it is obvious that the list of flowering plants during that period must be a limited one, and if the season should be severe, it is hopeless to expect much from this source; nevertheless, those anxious to make the attempt might try some of the earlier-flowering Primroses, of which the single white is the best I have—that being earlier under the same treatment than the wild one. Crocuses and Snowdrops, especially the latter, may also be planted, but it must be borne in mind that these bulbs rarely show themselves above ground till February; however, their cheerful appearance entitles them to a place in every garden. Winter Aconites transplant less satisfactorily, but I have not had much experience of them; and Hepaticas are too late for the purpose, as it is winter not spring decoration that we have in view; and if clearing the beds entirely by the middle of March be strictly adhered to, so as to have a six-weeks spring fallow, as it may be called, it is unpleasant to have to remove at that time plants that have scarcely attained their best.

Leaving, therefore, the subject of spring gardening for another occasion, I invite those who have had much practice in winter decoration and have employed other plants than those named for the purpose, to give us the benefit of their experience, as the matter is far from being so well understood as it ought to be. I have on former occasions described the mode in which we employ coloured materials, as well as plants, in our winter beds, so that the subject of polychrome decoration, as it has been called, need not be entered into here, further than stating that all who see it admit its advantages, and the great diversity it affords. In places where severe winters may be expected it constitutes an easy and pleasing mode of giving that beauty to a scene which the elements deny in another form. We only use materials of three colours—red brick dust, coal ashes for black, and a white sand plentiful in the neighbourhood, and I am not sure that more would be desirable. In large beds, however, another colour is worked-in with great advantage, and that is plain turf, which is made to form edgings to different compartments; or it may be cut into strips of 3 or 4 inches wide, and worked into a kind of embroidery or fancy work as may be thought desirable. Possibly, too, there may be other common things brought into use which have not yet been tried. The subject, although not new, has never yet become so fashionable as to attract the attention which it assuredly deserves, and which at some time it is likely to receive. I will, however, call attention to it on some future occasion.—J. ROBSON.

NEW GOLDEN COLEUSES.

THE utility of the Coleuses for ornamental purposes is so well known, and they can be so easily grown, and make such fine specimens in so short a time, that the value of those now in cultivation can scarcely be over-estimated. I wish to offer a few notes on them, to show how they have done with me during the past year as pot plants and as bedders.

I believe I am not wrong in saying that those previously sent out are of no value compared to the new golden ones. The new varieties differ from the others chiefly in their colours being the richest tints of bronzy crimson, with a peculiar lustrous glow.

I grow my plants mostly as pyramids in large 48-sized pots, and I keep them hard-pinched for the decoration of the dinner-table. Mixed with other plants they are very effective; under the chandelier they are perfection.

I think the variety, *Her Majesty*, the best I have ever seen; it has leaves as broad as one's hand, of a very deep bronzy red, and it very quickly makes a specimen.

Queen Victoria is a very beautiful variety; the centre of the foliage is of a rich bronzy crimson with a bright yellow edge.

Princess Royal is a lovely Coleus; the foliage is not particularly large, somewhat after the style of Queen Victoria, only brighter. The leaves are remarkable for the bright golden hue underneath. They have a most beautiful effect. Growing side by side you cannot see any difference from Princess Alice.

Telfordii aurea did not do well with me for the first year, though I tried several different ways of cultivating it. At last I have succeeded in growing it to perfection. I grafted it on Baroness de Rothschild, and during the last summer in my stove it was like burnished gold.

Of the other varieties, Princess of Wales, Prince of Wales, and the Duke of Edinburgh are very beautiful. Prince Arthur and Princess Beatrice are of a golden green hue, the principal veins being beautifully defined by crimson lines.

I have found the Beauty of St. John's Wood very handsome as a pot plant, and it is quite distinct from the old Coleus Verschaffelti.

During the past summer I bedded-out upwards of twenty varieties of the Coleus and only two did well—Coleus Veitchii and C. Verschaffelti. During the past summer I have visited several large public parks and gardens. At the Crystal Palace I noticed how very effectively and extensively Verschaffelti was used.

I have come to the conclusion that as pot plants in our stoves and greenhouses Coleuses are invaluable, but in our cold climate of England I believe I shall adhere to Verschaffelti and Veitchii for general bedding purposes. At the present time I have several specimens of Coleus Albert Victor and Baroness de Rothschild in 24-sized pots, and 2 feet in height. On these I have several different varieties growing. I have on one six or eight varieties growing, and upwards of twenty on one just worked. Their appearance is very novel and interesting. They are very easily grafted. I think it is very effective to see C. Batemani, with its nearly black foliage, grafted on a

bright golden Coleus. I hope to be able to report progress in the course of a few months.—F. P. L.

SETTING THE ROYAL VINEYARD GRAPE.

Last year I asked the cause of the bad setting of this Grape, and it was your opinion I had left too many bunches (eight). This I could not agree in, as the Vine was so strong, the rod, 6 feet from the ground, being 4 inches in circumference. Right or wrong, this year I have been successful in setting twelve large bunches. My method is simple—nothing new. I draw a dry hand along the bunch, or part of the bunch, when in flower, repeating the operation until the whole bunch is set. This answers well with all the Muscats I have, but the Royal Vineyard is more difficult to set, for with me it is never dry, a dewy wetness being on the bunches when in flower, making the hand damp and sticky. Having other Grapes in flower at the same time, I charged the hand with pollen and drew it over the Royal Vineyard, drying the hand every time, and every berry set; but when the Grapes had just finished swelling, having attained a good size, there appeared on some of the berries a blotch which had the appearance of a scorch. Scorching, however, could not occur, as the foliage was dense; in fact, the sun could not touch a berry. The berries so affected were at once cut out, but every day the disorder increased, so that by the time the berries not affected were ripe more than half the bunch was gone. The house is what we call our latest, and the crop is ripened without the aid of fire heat. We ripened Muscats in the same house, and to effect this we were obliged to put on fires. Can this have had anything to do with the disorder, as it commenced with the extra heat? Air was given night and day. Lady Downe's is in the same house, but is all right. One bunch of the Royal Vineyard was less affected and now hangs, being close to a front opening. It is one of our best-hanging Grapes, which is a consideration, and I do not like to condemn it if it can be successfully managed. I shall try it in pots next year. Will some of the readers of "our Journal" give us their experience of this desirable Grape?—C. M. McC., *Nash Court, near Faversham.*

[The berries of your Royal Vineyard Grape were attacked by "the spot," an ulceration usually caused by the roots not supplying a sufficiency of sap to sustain the growth of the Vine and its crop. If a little rich compost were placed over the roots, and weak tepid liquid manure applied once weekly during the season of growth, the spot would probably disappear. If the roots have descended deeply, or into an ungenial subsoil, they should be raised to nearer the surface.]

FLOWER SUPPORTS.

I have been a reader of your Journal for many years, and from it have derived a large amount of pleasure and knowledge, and as you invite all gardeners to record in it their thoughts and experience, a few remarks on the subject heading this communication I think may be of use to some.

Sticks are rather scarce, especially in or near towns; there, as is well known, are many gardens of small extent, the cultivators of which have not the privilege of going to a wood for a few sticks to which to tie their pet plants. To remove the difficulty I will name a plant which is not equalled for the purpose; it is of easy culture, and within the reach of most gardeners, and a great quantity can be grown in a small space. The plant is a common one in most gardens, but not grown so much as it deserves. It is the Halesia, or Snowdrop Tree, which enlivens our shrubberies with its beautiful snow-white drops in winter. Procure plants or suckers, or sow seeds in spring; select a piece of ground—they are not particular as to soil, any out-of-the-way place will do, but a moist one suits them best—plant them 1 foot apart, and cut them down to within 2 inches of the ground every autumn. If a few stronger sticks are wanted, leave the plants a winter without cutting, tie the shoots in bundles, and keep them in a dry place until wanted for use. If used green, as they emit roots so freely, they should be placed on a hot flue, or some such place, for a few hours. The quantity a few plants will grow is astonishing, and the sticks will last two years, and I am sure they are unequalled for tying such plants as Achimenes, Mignonette, &c. If allowed to grow in the shrubberies the plants are very ornamental, but when permitted to flower, and make large bushes, the quantity of shoots obtained is diminished considerably. Bees, too, are very fond of this plant, the flowers being numerous, and from them the bees gather a great quantity of honey.

Perhaps it will not be out of place to mention a few more plants from which useful flower sticks may be taken. If grown and cut down as above, many varieties of hardy deciduous Spiræas, varieties of Hypericum, or St. John's-wort, Ligustrum, or Privet, and Lilacs will produce an abundance of useful flower sticks.—H. C., *Hendre Park, Monmouth.*

PLANTS IN FLOWER DURING NOVEMBER.

2nd. Tricyrtis hirta
Obeliscaria pulcherrima
Rosa, Celine Forestier
Anne Boleyn Pink
Calceolaria, Ruby Bicolor
Linaria bipartita
Phlox, Countess of Home
decussata
Statice Limonium
Calendula officinalis
Achillea compacta
ægyptiaca
serrata
Omphalodes verna
Pentstemon procerum
venustum
Santolina incana
Antirrhinum majus
Arctotis breviscapa
Sedum cæruleum
Sieboldi
variegatum
Gaillardia picta
Corydalis lutea
Galega officinalis
Argemone grandiflora
Lathyrus grandiflorus
odoratus
6th. Nepeta violacea
Oxalis flava
elegans
Schizostylis coccinea
Plumbago Larpentæ
Pyrethrum Parthenium
Aster Amellus
dumosus
ericoides
lævis
Campanula carpatica
garganica
Hostii
pumila
Cheiranthus fruticulosus
Linaria purpurea
Astrantia major
Double White Daisy
Strawberry, Black Prince
Arabis alpida
Calandrinia umbellata
Gynerium argenteum
Hyssopus officinalis
Lobelia cardinalis
fulgens
St. Clair
Agathæa cœleatis
Lychnis coronaria
Rudbeckia laciniata
Neumanni
amplexifolia
9th. Rosa
Alyssum saxatile
Cedronella cana
Artimisia maritima
anuna
Chelone coccinea
Crocus autumnalis
Boryanus
Dracocephalum sibiricum
grandiflorum
Melissa aurea
Mimulus cupreus
Œnothera macrocarpa
grandiflora
taraxacifolia
Aira cæspitosa
Ajuga genevensis
Senecio tanacetifolia
9th. Senecio cærulea
Alchemilla alpina
Viburnum Tinus
13th. Ammobium alatum
Erigeron canadensis
Villarsii
Cerastium tomentosum
Dianthus barbatus
Caryophyllus
Coronilla Emerus
Betonica stricta
Aubrietia deltoidea
Asperula odorata
Centranthus albus
ruber
Calystegia pubescens
Centaurea gymnocarpa
candidissima
Clematis Jackmanni
Cineraria maritima
Convolvulus cantabricus
minor
Echinops Ritro
bannaticus
Cyclamen europæum
16th. Spergula nodosa
Erica ramentacea
ctricta
carnea
Veronica dentata
spicata
incana
sibirica
speciosa
serpyllifolia
Viola tricolor
lutea
cornuta
montana
Jasminum nudiflorum
Alyssum maritimum
Stachys lanata
Stenactis speciosa
Tradescantia virginica
Verbena venosa
19th. Vinca herbacea
Vittadenia trilobata
Koniga maritima variegata
Rose, Monthly China
Doronicum caucasicum
Lobelia speciosa
Statice latifolia
Limonium
22nd. Thymus officinalis
Tritoma Uvaria
Verbascum Blattaria
Viola odorata
Zauschneria californica
Salvia patens
coccinea
fulgens
Grahami
Chrysanthemums
25th. Helychrysum bracteatum
Linum perenne
flavum
Whitlavia grandiflora
Chrysanthemum Burridgeanum
Oxalis rosea
29th. Erinus alpinus
Ruta graveolens
Achillea tomentosa
Malcomia maritima
Lupinus nanus
Gilia tricolor
Sedum dentatum
Saponaria calabrica

—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

GARDENERS' ELECTRICAL ALARUM.

It may be interesting to some of your readers to learn that the clever application of electricity is now becoming the gardener's friend, although for domestic purposes it has been employed for some time.

R. E. Thomson, Esq., J.P., of Kenfield Hall, Petham, near Canterbury, has recently had fitted up an electric apparatus, which surpasses even the electric house bell, which is now being extensively adopted in large mansions. The electric wire has now been fitted for the first time in Kent to all the greenhouses, hothouses, forcing pits, &c., at Kenfield Hall, and has been attached to thermometers in such a manner as to ring a bell in the gardener's room should any great change of temperature take place either from sudden frost or over-

heating. The electric thermometers are so arranged that the bell will ring when any degree of heat is reached at which they may be set. The invention is a very clever one, and must prove of great service to gardeners wherever glass houses are in use. It is patented by Mr. Saxe. The electric wire above mentioned is laid from the battery in the mansion, which was fitted up with the electrical bell and Mr. Saxe's patent indicating tablet two years ago. The importance of these ingenious contrivances cannot be too highly appreciated, and this application of electricity ought to made more known.—EDWARD COVENEY, *The Gardens, Kenfield Hall, Petham.*

GLAMIS CASTLE, FORFARSHIRE.

THE SEAT OF THE EARL OF STRATHMORE.

(*Continued from page* 415.)

GRAPES are at once the pride and the glory of Glamis, and not only of Glamis, but of the whole of Scotland. It was a proud day to Scotch gardeners generally, to Mr. Johnston in particular—the day of the late International Fruit Show in Edinburgh, to find that but with few exceptions the home productions had carried off the palm, no less than eleven of the first awards falling to the share of Mr. Johnston, he being first with every exhibition except one. Never was such signal success achieved, never were so many honours bestowed on any one individual in any special class before, and never, magnificent as our exhibitions have been, was there such a splendid exhibition of Grapes as that which was seen in Edinburgh in September, 1869. It is an honourable distinction at any time to obtain a prize for Grapes; it would have been glory sufficient to have obtained a single one in such a tournament, where some really good cultivators failed to find a place. How much more so, then, was this the case with Mr. Johnston, who, as it were, "cleared the decks" with his magnificent productions! How much of interest, also, is there not awakened within us as to the mode of their cultivation? Deeply interested as we feel in all that relates to the cultivation of that kingly fruit, the Grape, we paid our visit to Glamis to see and judge for ourselves, and report to our readers. We did not visit Glamis in the expectation of finding anything mysterious, or new and startling, in the method of Vine culture practised, and which had produced such splendid results, and we were not disappointed. Those, therefore, who may expect a revelation, we are sorry to doom to disappointment. Here we found no new theory or practice in operation, threatening to revolutionise our own, which we have yet a little faith in. Here we found no peculiar dogma, or narrow-minded crotchet as to the necessity of this or that precise method of heating, or this or that description of soil, &c., such as is often made to account for success. Here, however, we found in operation all that science and practice have recommended, in the broadest sense, for the well-being of the Vine.

So much discussion has lately taken place with regard to Vine-border making and heating, and even the adaptability of particular soils for our Vines, that we feel bound to make some remarks on these subjects.

First, then, we shall look at the borders at Glamis. They have been formed on the plan of those at Castle Kennedy, which, under the able management of Mr. Fowler, have proved so satisfactory. The first principle considered seems to have been ample scope for the roots. Borders are formed both outside and inside all the houses as far as we recollect, those inside being 16 and 18 feet wide, and those outside of a like, or probably greater extent. About that space of ground is, at all events, devoted to them, and in front, forming a margin to the walks running parallel with the houses, there is a pretty border of flowers, thus taking off the bare appearance of the Vine border itself—a practice which we most highly commend. We did not inquire about the depth of the soil or drainage. To the latter, however, we were informed very special attention was paid, as will be seen from the following particulars. First an abundant supply of brickbats and similar open materials was used, then near the top of this a series of transverse lines of open drain tiles were laid, communicating with the outer and the interior atmosphere. Such is called an aërated border, which means neither more nor less than a well-drained one, with the air passing to and from at the bottom, if it will, or when it is permitted. In this, some will say, lies the secret—aërated borders from henceforth! Here, however, they will be mistaken, for Mr. Johnston confessed to us that these air drains were blocked up and never used. Theory, which is often beautiful, called for an aërated border, and it was made; practice, however, has managed to beget success without it. One, and one only, of these Vine borders is heated—that from which Grapes are required for early spring use. It is heated in a very efficient manner by hot-water pipes below the roots, amongst the drainage, and Mr. Johnston is a warm advocate for the adoption of a heated border where very early forcing is required.

The soil of which these borders are composed is of a very light and sandy character, but remarkably full of fibre. It is simply some of the natural soil of the place, the top spit from some adjacent pasture, with a liberal admixture of ground bones and lime rubbish. No other manure excepting the bones was added, partly because none was at hand; yet look at the result. It is not the soil which one would naturally choose for making a Vine border. It seems far too light and sandy, and wanting in that soft silky texture which is generally so much of a desideratum. That it is a fertile soil we see by the abundant crops of grain produced in the district, and chemistry tells us that there is a large proportion of alkalies in the soil, caused through the old practice, not yet abolished, of burning the superabundant vegetation as it grows on the land, quantities of the ashes being thus intermixed with the soil; and "those soils," says Morton, "which contain a large quantity of potash in their insoluble portion, have within them a source of permanent fertility, the alkali being gradually liberated by the decomposition which is constantly in progress, owing to the air and moisture permeating the soil." We do not, however, attach very special importance to any particular kind of soil for our Vine borders, and this example at Glamis tends to confirm our views, that Vine soils have more to be considered with regard to their porosity and their permeability to air, heat, and moisture than anything else, with, of course, the necessary supply of food.

The vineries at Glamis are all on the lean-to principle which, although the oldest is, perhaps, the best and most suitable for general purposes, especially for a northern latitude; they receive and also retain more heat than span-roofed houses, the latter, however, having the advantage of providing a freer ventilation. Each of the houses is about 40 feet in length, and there are five of them, two of them being 22 feet in width, by 18 feet high at back and 5 in front, the other three being 2 feet lower at back. Ventilation is provided by moveable sashes in front, and at the back in the top of the wall; about 2½ feet being glass, with moveable sashes hung on a centre pivot and connected together, whereby the whole can be opened at the same time. These houses, then, as will be seen, are very spacious, thus allowing the Vines plenty of breathing air and head room, which contributes not a little, we believe, to their success.

The Vines are all planted inside the houses—one line along the front, with liberty for the roots to go to the outside, which they undoubtedly do; another line against the back wall. The distance apart is about 3 feet, or 3 feet 6 inches, and this, although greater than the usual width, has already proved too close to allow ample development to the enormous leaves and the robust character of Mr. Johnston's side shoots. The Vines planted in front are, of course, the principal occupants, although from those on the back wall some most magnificent fruit has this season been produced. They have, up to the present time, had a fair share of the direct influence of the sun's rays, but now, as the Vines on the rafters occupy the whole space, those at the back cannot be so much depended on, nor is it intended. We were informed by Mr. Johnston that during the months of May and June, 1867, the whole of these Vines were planted, some being from eyes raised the same season: so that in September last, when the fruit attracted so much attention, and was awarded so many prizes, the Vines which had produced it were little more than two years planted. Two years, rising three—let us repeat it again—the age of an ordinary pot Vine. The present age is a fast one, and in its Vine culture it does not belie its character. The Vines have all made most exuberant and substantial growth, and were in bearing last season on from 8 to 12 feet of their length of rod; the leading shoot, of course, having now twice reached its extreme limit. The mode of pruning practised is the ordinary spur system, the spurs or side shoots of this season being about the most robust we have ever seen, and with such foliage!—deep green, of the consistency of leather, and in the most perfect health. Mr. Johnston is a firm believer in the good offices of properly-developed leaves, to which he pays the strictest attention, and

it is needless to say, that without good foliage good fruit can never be produced, every particle of crude sap drawn up by the roots having to be elaborated through the agency of the leaves.

To describe minutely the occupants of all these houses, with the condition of the crops, would be unnecessary; we shall, therefore, just take a general survey, and note the most salient features.

The first house, then, which we enter is devoted principally to Muscat of Alexandria Vines, and nothing could exceed the general appearance of the entire crop, the average crop on each Vine being about 25 lbs. Some of the bunches were very large, probably weighing 7 lbs., and none under 3 lbs. The berries were large and very regular, perfectly ripened, exhibiting that beautiful amber tint which is alone the result of first-class cultivation. It may be remarked here, that to colour Muscats well, the berries require exposure to the full influence of the direct sun, quite the opposite to the requirements of black Grapes. Mr. Johnston is so well aware of this, and so much pains does he take to secure the desired finish in every part, that not content with the natural position of the bunch, he first exposes and finishes one side, and then turns the shoot with the bunch round and exposes the other. Thus a perfect amber tint is secured on almost every berry. In this house there is also an example of Gros Guillaume (Black Barbarossa), with some magnificent bunches and berries, some of the bunches measuring 22 inches in length. One bunch had been cut which was stated to weigh over 8 lbs.; its stalk only remained for us to see, and it seemed to be so exceedingly robust, that it was measured and found to be half an inch in diameter.

The house succeeding to this, third in the range, is called the early vinery, and is principally devoted to Black Hamburgh Vines. The crop, which had been ripe in July, was in great part over, although some fine bunches were still hanging quite plump and fresh, and the foliage as healthy and as green as grass. From five to seven bunches averaging about 3 lbs., were taken from each Vine. Here, then, is an example of Duchess of Buccleuch, one bunch on which measured fully 15 inches in length, and was very handsome, the berries of a perfect golden colour. This is, perhaps, the highest-flavoured Grape in cultivation, and is on that account a great favourite with Lord Strathmore. Mr. Johnston obtained the first prize with it in the competition for flavour at Edinburgh. It is just a little difficult to cultivate, and seldom to be seen in such perfection as with Mr. Johnston. Golden Hamburgh was here also doing well, with some fine fruit, and Golden Champion—the champion of all Grapes, was growing very vigorously in several places, where it had been inarched on the Black Hamburgh. This house being intended for early forcing, has the advantage of bottom heat, which is easily shut off or on at pleasure, by turning some valves in the interior of the house.

Retracing our steps on the right-hand side of the gateway, after passing through the stove, we enter a mixed vinery. Here some examples of Muscat of Alexandria were perfectly astounding, such bunches, such berries, such colour, as it is rarely our lot to see. Here, also, Mrs. Pince was doing well, and colouring well, which is very frequently far from the case. That noble-looking Grape, Black Prince, was likewise in fine array, and Muscat Hamburgh in splendid condition, without a trace of shanking, its besetting sin. Lady Downe's, one of the best of our late Grapes, was looking well, and some examples of the same on the back wall truly grand.

Next we come to what will ultimately be the late Hamburgh vinery, in which are at present some Fig trees, with only a few Vines. The first plant we noticed was a Black Alicante, and from this plant was cut the bunch which was considered the most handsome bunch exhibited, and which obtained the prize for the best bloom, at the Edinburgh Show. The two or three bunches which still remained were certainly models. On the back wall were fine examples of several varieties, including Duchess of Buccleuch. The next house, which is also the last, is termed the late vinery, being filled with examples of Lady Downe's; Black Alicante, which, for appearance, is excelled by none, and for flavour, when well ripened, not a long way behind; Raisin de Calabre, a coarse white sort, superseded now by Thomson's White Lady Downe's; and Black Morocco, a truly handsome sort when well set and well managed, as it is here, but which in ordinary circumstances is quite worthless, owing to its bad setting qualities. Besides these, the permanent occupants of the houses, we observed in several of them, along the sides of the pathway, pillar Vines in the border bearing splendid fruit. Some we observed had been cut down to the surface of the ground, the stump only remaining. On inquiry, much to our astonishment, we were told that these were pot Vines—Vines in pots plunged in the borders which had been used to provide a supply of fruit for the past three years, until the permanent Vines could do so. Never have we seen Vines in pots bearing so prodigiously—Muscats some 3 lbs. in weight, with eight and ten bunches on a plant, &c. The roots had, of course, extended beyond the pots into the soil of the border; yet so little was it the case, that they were still *bonâ-fide* pot Vines. It is a lesson worth knowing—how to provide a supply of Grapes at little expense, until the work can be performed by the permanent plants.

Having now passed in general review all that relates to the Vines and Vine culture at Glamis—having laid the plain facts before our readers, it might be well before we close to see if we cannot, from this very successful example of Grape cultivation set before us by Mr. Johnston, learn a lesson for our future guidance. The idea that first-class Grapes could not be cultivated thus far north, is happily proved to be erroneous. To what are we to attribute Mr. Johnston's great success? Is it to the houses themselves? No, although they are all that can be desired. Is it to the construction of the borders, their drainage, aëration, or the quality of the material? It is not to the first, although that is no doubt good, nor to the second, which is not used. It is, however, we believe, somewhat owing to the fine quality of the soil used, its great openness and freeness of texture; and in a large measure to its great extent, and the liberty which the roots have had, as well as to the corresponding scope for the development of the top—thus root and branch have been in a corresponding comfortable medium; and, lastly, chiefly to the assiduous care of Mr. Johnston, in providing at the proper time the requisite degree of heat, moisture, &c. In short, it seems that care and attention, with very liberal treatment in every respect, are the principal wants of the Vine. This is what the Vines have had at Glamis, which has made them the glory of the land, and Mr. Johnston the prondest, although at the same time the most unassuming of Grape cultivators.

(To be continued.)

ROSE STOCKS.

As the planting season extends from now to February, a few remarks on stocks may be acceptable to your readers whose land is similar to my own—sandy.

For the last three years I have invariably planted below the collar all my worked Roses, either on the Manetti or Dog Rose. Now, some will say those worked on the Briar would perish; granted in strong soils, but in sand I have always found during the hot summer months that planting thus is much better, and keeps the roots from burning.

I have a plant (name lost) budded on the Briar, with a stock 18 inches long, which is quite below the surface, yet it is in a flourishing condition. I have a Gloire de Dijon on the same stock against a wall planted in the same manner, and it is a large tree and very healthy. In our land nothing answers so well as the Manetti. You have fine heads to your trees the first year, when those on the Briar make but little wood and require years to form a tree of any considerable size.

I have one old tree of Jules Margottin, budded on the Manetti stock, which I have had occasion to remove for alterations; its stock measured 3½ inches in diameter, and the roots measured as many feet in length. Talk of the stock wearing out, I do not think it ever wears out, but improves as it becomes older. If Roses are budded low, I find after a few years some part of the tree has made roots for itself, and, if the stock do wear itself out, your tree does not perish.

If amateur growers follow my plan, say for one year, I think if they have many Roses on the Briar they will lower their stocks for ever afterwards. Of course these remarks are only intended for dwarfs. I have a Maréchal Niel and Monplaisir on a new stock, the name of which I have lost and forgotten. Perhaps you can help me.—Amateur.

[We can but guess that the stock of which you have lost the name is Gloire de Dijon.—Eds.]

American Peach Orchards—How they are Raised.—The stones of the fruit are planted in the fall, come forth as young trees the following spring, and are budded the first year, as soon as the season will admit. By good cultivation the trees

will often show fruit the third year, bear a full crop the fourth year from the bud, increase in fruitfulness for about seven years, and as soon as the fruit gets at all smaller and later than usual, they are cut down, and succeeded by fresh plantations in other parts of the farm: so that a Peach-growing farm is a succession of plantations, from the stone to the decaying tree. Of course, the land, after the removal of the decaying orchard, undergoes renovation and rest by manure and other crops, until the ground, in the course of years, is able by restored fertility to bear a new plantation.—(*Toronto Globe.*)

DESFONTAINEA SPINOSA.

It is much to be regretted that in a great many public ornamental grounds care has not been taken to introduce our choice shrubs in larger numbers. Cemeteries give scope for a greater variety of shrubs than are often found there, and it has frequently occurred to me that no better place could be chosen for them, for many of the visitors need something that will interest and not offend them, and a more fitting object could not be found than a shrub with which the visitor is, perhaps, not acquainted. Laurels, Laurustinus, Lilacs, and the like, good and indispensable as they are, need not be the only shrubs planted, there being many others known and cultivated long ago that are far from being common even now. It is but seldom that the Phillyreas are met with, and no finer shrubs are grown than some of them; they always look well, and sometimes, when loaded with berries, are quite handsome. The glossy-leaved Alaternus is equally ornamental.

As, however, I may shortly call attention to these and other neglected evergreens more fully, I at present merely press the claims of a rather tender evergreen of more recent introduction on the attention of cultivators. I refer to Desfontainea spinosa, a shrub in many respects resembling the Holly, only instead of being ornamented with berries, red or yellow in winter, it presents us in summer with an abundance of handsome orange-coloured flowers, resembling those of Lapageria rosea. The plant, I believe, is perfectly hardy, but ought to be classed amongst those flourishing in peat soil, more so, I think, than the Magnolia and some other plants. It is, nevertheless, more accommodating than some of them, and is well adapted for a low wall; but here a plant on the open lawn flowered most profusely during the past summer, no doubt stimulated to this by the hot dry weather of the previous year. With us the plant is not fast-growing, but this I attribute to the lack of peaty matter in the soil, as I have seen it elsewhere grow more freely. To those who have not seen its fine, orange-coloured, tubular flowers, and who have a favourable position for a plant of moderate growth, I would say, Obtain one of this, and the first appearance of its blossoms will be an ample reward for any trouble that may be taken.

I believe it likes a dry situation, but I am not sure of this; still, as for plants of doubtful hardiness such a position is the safest, we must take it for granted as being the best for the Desfontainea, until, perhaps, some one finds out that one quite the contrary is better. Those places where I have seen it succeed were dry, and sheltered from the coldest winds.—J. Robson.

PLANT-PROTECTORS—BRICKS versus WOOD.

The advantages which Rendle's protectors offer are probably not overstated, but as it is invariably claimed for these and other miniature glass coverings that they are cheap and durable, it may be worth while to inquire whether, if we accept the invitation and regard them from an economical point of view, some modified form could not be had, which, in addition to being really cheap, might be as applicable to the same purposes with nearly the same advantages. When this thought occurred to me, I went to the carpenter who does what work is required here, gave him the dimensions of Rendle's largest protector, which is 8 inches high in front, 12 inches high at the back, and with the glass 24 inches wide, and I inquired at what price, to afford himself a fair profit, he could supply a protector of a similar size, with glass of the same quality (21-oz.), but with 1½-inch deal boards instead of the bricks; the boards to be grooved, painted twice, and thoroughly finished off. In his estimate he has given me the price of the planks, painting, and glass separately, but it will be sufficient for my purpose to say that his price is 1*s.* 4*d* per running foot, or a trifle more than half the cost of Rendle's protectors. This does not include the ends, which could be supplied at 9*d.* each.

Now, without wishing to detract from the merits of the brick protectors, I would ask, Is not this simple modification worthy of attention? I think it is. In comparing one with the other, the only advantages possessed by the bricks over the boards, as far as I can see, are their power of absorbing and retaining heat, and their greater durability. Nor would I consider the latter to be of much advantage; for stout planks, with a very small annual outlay for paint, will remain serviceable for a long course of years.

The introduction of protectors for sheltering tender vegetation is evidently a step in the right direction; but while we heartily acknowledge this, it will be well to bear in mind that in order to ensure general adoption they must possess simplicity of form, economy in price, and efficiency when in use. The brick protectors undoubtedly possess these qualifications in some measure, but I think that for many purposes, and certainly in all places where the soil is at all uneven, the boards will prove the more useful.—Edward Luckhurst, *Egerton House Gardens, Kent.*

THE KALES OR BORECOLES.

I have seen at Messrs. Barr & Sugden's grounds a heavy trial of Kales, and the following observations made there may aid in rectifying the mistakes made in the names, and keep matters straight for a year or two.

Taking Mr. Cattell, of Westerham, as an authority, he being looked upon by the trade as better acquainted with the Kales than any seed-grower or seed-seller, Mr. Barr had from him a large-leaved lightish green plant, as *Buda Kale;* a dark bluish-green leaved plant, a little in the same way, but more vigorous-growing, as *Egyptian Kale;* a somewhat curled-leaved Kale, one purplish and the other green, as *Jerusalem Kale;* a plant, apparently a sub-variety of the Jerusalem Kale, as *Delaware Kale;* and for *Ragged Jack* he had a plant of recumbent, spreading growth, with large darkish green, much-cut leaves. Now this dark green Egyptian he has had from other houses as Buda, with, perhaps, a sprinkling of the lightish green in it. Query, are they one and the same thing, but selections?

From France came a Kale very much like this Egyptian, but with a smaller leaf, called *Chou à faucher*, and, if I mistake not, I have seen this same kind of Green growing wild on the seacoast.

In referring to catalogues, I find Chou de Milan, Buda, Egyptian, and Jerusalem Kale all candidates for the name *Asparagus Kale.* No doubt they are all sprouting Kales, and this must be their principal advantage, but which of them should be called *the* Asparagus Kale? Some authority ought to speak out, so that the trade may be somewhat agreed. Some of the trade send out for Asparagus Kale *Couve Tronchuda*, an excellent vegetable, but certainly having no claim to the name Asparagus. Sea-kale Cabbage would be an appropriate name for it.

In the spring I asked Mr. Duncan Hairs if he could put me right about Asparagus Kale. He said he knew the Kale well, and would give me a pinch of seed. I sowed it, and it proved to be Jerusalem Kale according to Cattell, and certainly at the present moment about its shoot there is more that would claim the cognomen "Asparagus" than the varieties of other Kales I have just named.

Mr. Barr, from another source, received seed as *Lapland Kale*, which proved also to be Jerusalem Kale. He also received some seed as Miller's Winter Kale, which proved to be Egyptian Kale. From a third seedsman he had Ragged Jack, an upright somewhat laciniated Kale. He had the same Kale from another source as Ragged Jack.

Of those popular Kales I therefore make out as different:—

Buda—large, broad, lightish green foliage.
Egyptian—large, broad, somewhat cut, bluish green foliage.
Jerusalem—erect and branching or sprouting, somewhat curly.
Ragged Jack—erect and laciniated.
Delaware—in the way of Jerusalem, but a little different.
Lapland—same as Jerusalem.
Chou de Milan—long, thick, vigorous, with large leaves, and showing promise of abundance of sprouts.
Cottagers' Kale—in the same way as Chou de Milan as to growth, but differing in colour and in foliage.

It would be very desirable if their true names could be affixed to these Kales, and a good descriptive note attached to each. Then there is the *Prussian Kale* and *Siberian Kale*, which it would be well to fix to their right varieties. Besides

those that I have named, there are the Marrow-stemmed, Thousand-headed, Palm-formed, &c.

Curly Greens also want looking to a little. I do not see the true Dwarf Curled Kale of my boyish days amongst all the varieties I have, nor yet that strong-growing tall Kale, which the lads and lasses used to steal blindfold, to see what sort of husband or wife they were to have, and which was always enough for a good strong boy to carry on Hallowe'en night.

The varieties in this way of English or Scotch that Mr. Barr has, are mostly intermediate and from France; they are so dwarf as to lay quite on the ground, indeed, they squat themselves on the soil. Then there is the *Canadian*, which has a drooping, arched foliage, and some others. One firm for Chou de Milan supplied Savoy seed one year, and when it was mentioned to them they persisted they were right, and so they were to a certain extent. Chou de Milan, according to Vilmorin's "Plantes Potagères," is the generic name for Savoy; but Chou de Milan in the London trade is a different thing. Now, here is a field, and dealing with a subject of this kind we ought to bring ourselves somewhat in harmony with our French neighbours, for anyone sending to Vilmorin for Chou de Milan would no doubt get Savoy seed.—F.

ROSES AND THEIR STOCKS.

Much has of late been said on the various stocks on which to cultivate "the queen of the garden." Everybody loves Roses, and, as in other cases, so with the Rose, we cannot accept or adopt one universal mode of culture. Circumstances have much influence over the successful culture of Roses, and respecting stocks for them much practical information has of late been advanced, and much light has been thrown on the subject, which no doubt will prove useful and acceptable. We have one extolling the Briar as a stock, and as deliberately condemning the Manetti, and the contrary; others advocate different kinds of Roses for stocks—all useful in their way no doubt, and perhaps suitable to the circumstances under which each advocate is placed; but, at the same time, it should be borne in mind, that the vendor is supposed to have something of all kinds to meet the requirements of those who may give him a call.

Much has also been said respecting the merits of both old and new Roses. There can be no question about many of what are termed "old Roses," holding their own against all comers. There is also a wide difference between growing Roses for exhibition and for decorative purposes. This should always be borne in mind, so that under these circumstances there must be a resort to different kinds of stocks; all Roses will not in all places succeed under the same treatment, so that neither one stock nor any one mode of culture can be adopted—let each under his or her peculiar circumstances take notes and act accordingly.

From past experience I long ago discarded Briar stocks and standard Roses, but I would not advise others to do so, if such answer their purpose.

I find, where I am situated, that the Manetti stock when properly treated answers my purpose better, on the whole, than any stock I have tried; but notwithstanding all the stocks and modes of culture advanced, I prefer all Roses that will succeed on their own roots. By frequent transplanting they form almost a mass of roots, and it is astonishing to see the growth some of our best Perpetuals make on their own roots. This season we have had shoots of Charles Lawson, one of the very best of Roses, from 6 to 8 feet in length, likewise Princesse Mathilde and the Rev. H. Dombrain, besides many others of equal growth. Acidalie, a Rose that is not much known, but one of our very best white Roses, has yielded us a profusion of beautiful bloom. This I attribute to stopping the early summer's growth, which was unusually strong.

During the Rose season that has just past, very many of our best Roses have rewarded us with a profusion of blooms which in quality and richness of perfume could not be surpassed; but while those which are called new and exhibition Roses are brought so prominently before us, and shown in all their beauty (and they are worthy of all the praise), I would ask, Is there not a culpable neglect of others of the same race, which deserve some share of our admiration and attention? I mean those glorious old favourites, the China Roses, which are well adapted to every place, though they have to be remembered as the neglected ones. They are a numerous race, and many of them, whilst very distinct in colour, are in form not to be despised.

While I commit these few remarks to paper, under a cloudy dull November sky, what can be more charming than the display of the China Roses of various colours? But, why are they neglected? Did not one of our contributors recently say something about their worth in the shrubbery border? I add, they are worthy of that, and better places too. I need not say one word about properties, their qualities, or the mode of propagation, because they can be readily increased.

While on this subject, I would ask why that gem is so seldom met with, which ought to be in every garden—the double yellow Rose, called the Persian Briar? When well grown (and it is very accommodating), there is not its equal in colour. I have had it succeeding well on the Briar, on the Manetti, and on its own roots. Though its flowers are of short duration, it well repays any amount of labour, and for aught I know, it will succeed everywhere.—M. H., *Acklam Hall, Middlesbrough-on-Tees.*

FORCING PLANTS.—No. 5.

Rhododendrons must be admitted to be the princes of evergreen flowering shrubs. They are easily forced, but to flower well ought not to be subjected to great heat; indeed, they ought to be brought forward slowly. A greenhouse with a night temperature of 40° is sufficient excitement for the first three weeks; then afford a steady increase of temperature to 45° and 50°, which is sufficiently high for bringing them into bloom. The house cannot be too light and airy, but a moist atmosphere must be maintained until the blooms expand, when a drier and cooler atmosphere is more suitable.

The plants need no previous growth or preparation in pots, only for forcing it is desirable to make an early selection in order to secure those which have the growth and buds formed earliest, as they will be most suitable for early forcing. They ought to be in pots at the close of September or beginning of October, and should be at once placed in a cool airy house. They will be very suitable for forcing early in December, for flowering in the middle or end of January. They move, however, with such excellent balls that they may be lifted as required, potted, and placed in the forcing house at once, but it is desirable to let them remain at least a fortnight or three weeks in a cool house before being placed in artificial heat. The balls are sometimes inconveniently large; they may be reduced so as to fit a moderate-sized pot, but this must weaken the plants, and, if carried too far, will result in a weak bloom; it is well, therefore, to preserve as many of the roots as practicable. Peat soil alone is a suitable compost, though a mixture of turfy loam, leaf soil, and old cow dung answers very well. Good drainage must be provided, and care should be taken in potting not to leave any vacancies round the ball not filled-in with soil. Good supplies of water are needed, and a gentle syringing morning and evening will do good, discontinuing it when the trusses show colour.

After flowering the plants should be continued under glass, and be kept safe from frost until danger from it is past, when they may be planted out, or continued in pots, plunging them in an open situation, and giving a top-dressing or mulching of cow dung, with abundant waterings in dry weather. The earliest-forced plants seldom form flower-buds, but those which have been but gently forced will for the most part do so, and they are the best plants possible for early forcing. Most of the plants will be again available for forcing after a year's rest; but they come in so well for filling gaps in shrubberies that they are mostly planted-out, and others selected in autumn for forcing. Plants wintered in a cool house and allowed to bloom naturally without fire heat may be grown year after year, and a selection of Rhododendrons in pots affords a fine display during March and April, and ought to have a place in a cool house or an orchard house. There protection could be afforded to this class of plants, whose flowers are subject to injury from the spring frosts that in our climate are accompanied with such an amount of moisture as to vastly impair the beauty of the bloom. Some of the best sorts for forcing are:—

Dwarf or Small-growing Rhododendrons.—Azaleoides odoratum, white, shaded with purple, very fragrant; Ciliatum, white, delicately shaded with rose, sweet-scented; Daphnoides, waxy rose; Dauricum atrovirens, purple, very early, forcing well in November for Christmas bloom; Gemmiferum, shaded crimson with white centre; Myrtifolium, rose. These sorts are splendid

for bouquets and general decorative purposes, being in every way smaller than the other kinds.

Early-flowering Rhododendrons.—Of these Nobleanum may be taken as the type. They bloom so early that the flowers are injured by spring frosts. Broughtonianum, rosy red, splendid for a cool house; Campanulatum hybridum, white; Caucasicum album, white, plant dwarf; Mars, vivid scarlet; Marian, pink, dark spots, dwarf close habit; Nobleanum, scarlet, rose, and several other varieties; Nobleanum superbum, scarlet, very dwarf, and very early; Rosamond, rose, very dwarf; Russellianum superbum, deep scarlet, large truss; Stamfordianum, rosy scarlet; and Wellsianum, scarlet. These are excellent for permanent culture in pots, and are the best of the large-flowering kinds for forcing. If not excited by more heat than that of a cold house to which no fire heat is given except in very severe weather, they bloom well annually for a great many years, and are fine plants for the greenhouse or conservatory.

Catawbiense Varieties.—These are very hardy, have immense trusses, and the flowers are of good substance, hence they are well adapted for forcing. Album grandiflorum, blush white, green spots; Azureum, bluish lilac; Cœruleseens, bluish purple; Everestianum, lilac, spotted and fringed; Fastuosum flore-pleno, lilac; Grandiflorum, deep rose; Roseum elegans, pale rose; and Roseum superbum, deep rose.

Late-flowering Hybrids.—These are good forcers, but ought not to be excited much before January, and they flower best if allowed to come on slowly in a cool greenhouse. Those named are of dwarf good habit. Alarm, white centre, edged with light scarlet; Blandyanum superbum, light crimson; Brayanum, rosy scarlet, with light centre; Brilliant, crimson scarlet; Coriaceum, white; Lefevreanum, purplish crimson; Maculatum purpureum, purplish rose, much spotted; Madame Miolan Carvalho, perhaps the best white Rhododendron; Neilsoni, rosy lake; Ochroleucum, pale yellow, brown spots; Paxtoni, rose; Victoria (Pince's), deep claret; and William Downing, dark puce, blotched.

Azaleas are second only to the Rhododendron, and they have the advantage that some of them are scented. The small-flowered but very sweet kinds, as Viola odora, orange and salmon; Viscosa floribunda, white; and Viscocephala, sulphur white, are splendid both for pots and cut flowers. The pretty A. amœna, rosy purple, is fine; and so are Monstrosa fasciculatis, yellowish orange, and Monstrosa variabilis, yellowish orange, but changeable on account of their dwarf habit. English varieties:—Coccinea major, dark scarlet; Decorata, pink; Pontica varieties:—Alba (Thompson's) creamy white; Macrantha, sulphur; Princeps grandiflora, pink; and Triumphans, orange. Ghent varieties:—Coccinea speciosa, orange scarlet; Julius Cæsar, red, orange in the upper segment; Morteri, yellow and rosy red; Princesse d'Orange, salmon pink; Quadricolor, buff, shaded with salmon; and Unique, deep scarlet.

The Azaleas require the same treatment as Rhododendrons. They may be forced a month, or, better, six weeks after the leaves have fallen, potting as soon as they begin to fall, or in October.

Andromeda floribunda is a good free-flowering plant, and being white and sweet-scented is fine for bouquets. It requires but very little forcing. To have it in flower at Christmas plants that have been potted in September or October, and kept in a sheltered position or cool house, may be placed in a house with a night temperature of from 40° to 45° at the end of November, and they will be in splendid bloom at Christmas. It is naturally so good in habit that it must be considered a first-rate decorative plant, and it is one of the most effective of hardy low-growing shrubs when gently forced. It requires a more sandy peat than Rhododendrons, and should be grown in partial shade during the summer, and be well supplied with water. Return it to a cold pit after flowering, and harden it well off before exposure out of doors. The plants may be grown a number of years in pots, and annually placed in a cool greenhouse for blooming. There are many species of Andromeda, but A. floribunda is the best.

Kalmia latifolia, with good foliage and splendid heads of bright rosy scarlet flowers, is a fine forcing plant. Small plants well set with bloom buds should be potted in October, kept in a cool house, and be forced the same as Rhododendrons. To succeed well they should not be subjected to a high temperature, but be slowly brought forward. The plants may be grown in pots for a number of years, but they will not flower the second year if they are forced early, and usually are only available every second year. The variety myrtifolia is a dwarf form with much narrower foliage. It is very handsome. Soil, sandy peat, and good drainage. Standards of K. latifolia are fine for large conservatories, and for decorating halls, &c.

Daphne Cneorum.—The flowers of this are very sweet, and deep pink or rose. It may be had in very small plants. The way to obtain them is to layer a good branch of an old plant in a 3 or 4-inch pot in autumn or spring—for a dwarf plant layer it close to the shoots—plunging the pot in the ground. The following autumn the layer will be well rooted, and may be detached and potted in a 6-inch pot, plunging it in a warm dry situation. Pinch off the bloom next summer, and keep the plant duly supplied with water. It should have an open sunny situation. The soil used may consist of sandy peat two parts, one part loam, and one part limestone or lime rubbish, with a free admixture of sand. Good drainage must be given. The pots ought to be set on rough cinders, and the intervals between the pots filled up with the same. The plants are impatient of stagnant moisture, therefore guard against its lodgment by raising them above the ground level. By autumn they will be fine plants; remove them to a cold pit before severe weather sets in, and take into the forcing house a few plants at a time, placing them in a light and airy situation, and near the glass. They succeed in a greenhouse, and require nearly the same treatment in forcing as Rhododendrons. Standards are very handsome, and they are obtained by layering a branch with good shoots well situated for forming a head. After layering the branch and securing it with a peg, put in a neat stake, and tie the branch upright to it. Detach the layer a year afterwards, and grow it a twelvemonth in a pot as described for dwarf plants. The stake, being no thicker than the stem, and painted green, will not be very conspicuous. Standards in 6-inch pots are very ornamental for table decoration.

Viburnum Tinus (Laurustinus).—Flowering as this does in winter, it can hardly be said to be forced, but as the flowers are liable to be injured and retarded by severe frosts a few plants in pots are desirable. The plants are best grown as pyramids or standards, both of which are handsome, the latter especially so when on stems 24 or 30 inches high and having compact heads. Either are easily formed by cutting in to the shape wanted in spring before they begin to grow, and disposing the shoots equally in summer, not stopping any except those which are very strong, as from their points the bloom is produced. Standards take a longer time to form, but they are of easy formation, the side shoots being taken off until the length of stem required is secured. They ought to have an open situation out of doors from May to November, being well supplied with water in dry weather. A cool, airy, light house from which frost is excluded, is all the forcing they require.—G. Abbey.

NOTES AND GLEANINGS.

We are informed that the prize of £5 5s., offered by Lieut.-Col. Scott, R.E., Secretary of the Royal Horticultural Society, for an Essay on the Principles of Floral Criticism, will be awarded on Wednesday, May 4th, 1870, and not January 19th, as previously announced.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Little can be added to previous directions under this head; operations at this season are entirely dependant on the state of the weather. No opportunity should be omitted of getting the soil in a favourable state for the reception of the various crops which must soon be committed to it, and as the basis of success is allowed by all good practical gardeners to be a thorough system of drainage, no time should be lost in attending to this. The surface of the soil must be occasionally stirred amongst *Cauliflowers*, *Lettuces*, and young *Cabbages*, and the earth should be drawn round plants of the last to prevent them from being blown about by the wind. *Celery* and *Parsley* must be protected in severe frost. See that a warm patch of ground, on a south border, is in readiness to sow a breadth of early *Radishes*, and in bad weather prepare a quantity of material for the protection of early crops of various sorts.

FRUIT GARDEN.

The renewing of fruit-tree borders where the soil is impoverished is very necessary at this season. Let as much of the old soil be removed as can be done without disturbing the roots, supplying its place with maiden loam. Avoid stimulants, which often induce over-luxuriance instead of fruitfulness. As a considerable difference of opinion exists on this

point, young gardeners will do well to turn their attention thereto. As far as my experience goes, I hold it to be a great point in the formation of borders for fruit trees, that no stimulating manures should enter into their composition. I ought to add, however, that Vines are an exception, for they are gross feeders, and capable of taking up and assimilating a greater amount of nourishment than harder-wooded fruit trees. All the pruning, except that of Figs and Apricots, and most of the nailing of wall trees, as well as the training of espaliers, should be finished, if possible, by New Year's-day, and the same may be said of bush fruit. The making of borders or stations for fruit trees, too, should be autumn business; indeed where new soil has to be introduced, October is the most fitting time, as the best of soils may be seriously injured by moving them in a wet state. All matting or bast required for the ensuing year should be cut, sorted, and hung up ready for use. No time should be lost when the weather is bad in proceeding with in-door work. Besoms and baskets should be prepared, the tool-house examined, and any other work done that is possible.

FLOWER GARDEN.

When any of the beds or borders require a dressing of fresh soil, this should be in readiness to wheel on in favourable weather. As a dressing for flower-beds, fresh soil is in most cases preferable to manure, which is apt to cause too luxuriant a growth for a first-rate display of flowers. In soils naturally poor, however, and where neither fresh soil nor decayed leaves can be had, a moderate dressing of well-rotted farmyard manure will be useful, but this should be thoroughly mixed with the mould the full depth of the bed, and not carelessly turned over and left in lumps near the surface, for in this case a gross habit of growth would be promoted early in the season, and as the principal parts of the roots would be near the surface in the manure, the plants would soon feel the effects of dry weather; but if the manure be well incorporated with the soil to the depth of about 18 inches, no ordinary amount of dry weather will injure the plants after they once become fully established. Attend to the protection of tender plants, and in moderate weather like the present, especially if dry, open the canopies or coverings a little for a few hours once a-week or so, in order to dispel damp. A plan of the masses or beds might also be decided on. As regards florists' flowers, little can be done now except in the way of preparation, and should frosty weather set in, it will afford the opportunity of having all the compost heaps thoroughly frozen; by repeatedly removing the encrusted surface and piling it up every morning, many of the insects and their eggs will be destroyed, a point of no small importance to the cultivator. Hard weather is also a good time to cart turf, peat, &c., and to lay in for the various plants and flowers a good stock of the soils most suitable, without which it is next to impossible to grow such successfully. If leaden pegs are used for layering Carnations, a fresh stock may be cast, and the old ones cleaned and straightened. If the florist can mend his own hand-glasses and shades, these ought now to be looked over, and the metallic wires which have been used for attaching the stems of Carnations or Tulips to their supports should be made ready for use, and stored away in their proper places. During severe weather rabbits will be apt to attack Carnations and Pinks. It would be worth while to try the plan of dipping small square pieces of cloth in brimstone, tying them to sticks, and inserting the sticks in the ground round the beds.

GREENHOUSE AND CONSERVATORY.

As the introduction of Chrysanthemums must have caused a disarrangement of part of the stock, it is of importance to set the plants which have been removed in their former situations, or to rearrange the whole, so as to produce a good effect. Plants, however, must not be set where they will not thrive, and this is a point to which careful attention must be paid. Chrysanthemums decaying should be cut down, if that has not been already done. They should then be suffered to become somewhat dry, and be removed to cold frames. Those who cannot afford frame room, may secure them in some shed or outhouse for a few weeks, covering them overhead with clean straw whilst frost lasts. If they are slightly frozen it will not matter, only take care that they do not thaw too suddenly. The present dry, cold weather may cause extra protecting material to be employed, therefore some should be in readiness when required. If not already done, lose no time in placing under cover a supply of the various loams, peat, &c., likely to be required for spring potting. The conservatory and show house should now be made as gay as possible with forced plants; keep up a regular succession throughout the winter and spring, by bringing forward stock as wanted. Roses, both dwarf and standard, Honeysuckles, hybrid Rhododendrons, and Azaleas, with many other plants, will enable cultivators to make a good show. Hyacinths, Narcissuses, Tulips, Lily of the Valley, and similar flowers, must be forwarded as wanted. Hard-wooded plants will require a rather dry atmosphere, in order to keep them free from mildew and damp. The principal work in plant houses will consist in keeping them and their inmates scrupulously clean.

STOVE.

Little can be said with respect to stove plants at present. Use moderation in heat, ventilation, and atmospheric moisture. Beware of exciting the buds of Orchids too soon. Attend to this, and keep a somewhat drier atmosphere until the middle of January.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

The past has been for the most part a week of mist, fog, and rain, making the ground, if at all stiff, slimy and uncomfortable on the surface, and therefore but little digging and trenching was done, leaving such work until we had a little frost, or the weather should be more open, and drier. Where, however, other work was scarce, rough digging, and especially ridging-up, could be proceeded with. In the frosty days, when not engaged in ice-collecting, we were chiefly employed in wheeling manure into heaps, whence it could be taken as needed, collecting soil and tree leaves, and taking up more Sea-kale and Rhubarb, and placing them in the Mushroom house. The first has come in very well with little or no bottom heat, the heat of the atmosphere ranging from 55° to 58°. Our first bed of *Mushrooms* has yielded well, helped by some manure waterings of dried cow dung soaked in water. Woodlice nibbled a few Mushrooms, but they seem to have all left us, after pouring very hot water down the small chinks made at the backs and fronts of the beds, where they congregated to screen themselves from observation. We never hesitate to use hot water in such places, as it benefits the bed rather than otherwise; but we have not yet gone the length of giving a watering all over a bed, young Mushrooms and all, with water nearly at the boiling point, as a friend of ours does, and he says with the best results. The farthest we have gone in the way of experiment was to water a yard or two with water at 195°, and though there were a few Mushrooms some 4 inches in diameter, and plenty from the size of peppercorns and walnuts up to the above, we did not see that the warm water did them any harm. Still, as we generally have plenty without such extremes, we would be inclined to let well alone, except in the way of experiment. Had we a bed that did not bear, or ceased to bear prematurely, and we thought the barrenness might be owing to coldness and dryness, we would not hesitate to make some small holes, water well with warm water, draw a clean spade over the surface, and cover to keep the heat in, and thus induce a fresh gentle fermentation. We have acted thus on several occasions with good results, but that is a different affair from using water nearly at the boiling point to a bed bearing as our friend's does, or at least did lately, and he is no new beginner, but a grower of many years' experience. Until we know more, we would not counsel the free adoption of the practice, as some have tried it and been unsuccessful. Still, some of our readers may try as an experiment how high a temperature the Mushroom will bear for a short period, as in such hot-watering. We know it will often stand a low temperature, as we have gathered Mushrooms when covered with snow; and from beds out of doors that were supposed to be exhausted in November, and stood, therefore, exposed all the winter to frost and the general run of the weather, we have gathered lots, and a crop came again plentifully in April. Still, to obtain regular crops, it is well to attend to the systems of culture generally adopted, and recommended in these pages.

Radishes, Cauliflowers, Endive, &c., protected from the frost, are still good, and opportunity was taken to collect a lot of *leaves*, which were at once thrown into shape for frames, and which will yield a sufficient heat ere long to advance *early crops of Radishes, Carrots, Potatoes, Turnips*, &c. These leaves will heat and subside all the more regularly if no soil be put on until that subsidence has taken place, and as no turning-over to sweeten will be necessary, much labour will be saved if the cart can be emptied at once where the beds are to be. Moveable frames with sashes are exceedingly useful for such pur-

poses, and will serve many turns in the course of a season. For such temporary purposes, the frames are best to be shallow and light—say 9 inches high in front, and 15 inches at back, as they can stand above the soil, &c., in the bed, be easily raised at the corners to give more room to the plants inside if needed, and be easily moved. A good slope to suit the winter is secured by making the back of the bed much higher than the front.

Much of the refuse and cleanings from the garden come in very useful for the bottom of beds when they do not form part of the rubbish-heap. Many things from the garden when decaying would yield a valuable heat for various purposes whilst fermenting and decomposing, and there need be no fear of bad steam if such rough beds be covered with from 6 to 9 inches of half-decayed, rather dry old hotbed dung. If it be necessary to help on in such frames, plants in pots in winter which are liable to *damp* in moist weather, that will be greatly prevented by a covering of dry ashes from a furnace, or from the house fires, kept dry on purpose. A few lumps of unslaked lime will assist in this and do no harm whatever. It is astonishing how little air will keep such plants dry on the top and comfortable under such circumstances, even in close damp weather such as we have lately had. The little heat beneath, but from which no steam and but little vapour can rise, enables one to give air more continuously, and that continuous air-giving is more important than sliding off the sashes partly or altogether in a fine day. When the plants become inured to the change the more sunlight they can have the better, if the weather is mild; and when plants are hardy, except to frost, the lights may come off for a short time in the middle of the day. Robust health will greatly depend on the cleanness of the glass, and especially when rough coverings are used. Hence, in drizzling but not wet days, much time was taken up in washing sashes inside and outside. We fully concur with what a correspondent lately said about the importance of neat substantial coverings for protection, and the cleanliness and the tidiness thus secured about pits and frames. Still where much of this kind of work is to be done, and neatness for a time must be sacrificed to utility, nothing is so economical as rough litter for meeting all cases of extremely cold weather. Even then it is well to have a close covering next the glass to keep it clean, but that must be often dispensed with.

By attending to the details given last week, many things here shut-up and covered-up for about a week during the frost, looked when uncovered just as if they had been covered-up for an ordinary night. Of course, this would not have been the case if they had been helped with artificial heat.

Sea-kale.—Many amateurs with little room will thank Mr. Record for his plan, detailed in page 452. We force a good quantity in pots, as the heat can be easily regulated—more easily than when the roots are placed at once in a bed. When such plants come in faster than we want, the pots can be moved to a cooler dark place. But for this moving, and when amateurs come to know what a bed of a certain size will do, a small bed covered with any old box will afford much cutting. Such a box without a bottom and with a moveable lid set over the plants would be an improvement over covering a pot with another pot of the same size, as the atmospheric heat would be more equal. The instructions about raising from seed are very good, but, as stated, fly and other intruders are very troublesome. When once a crop is forced seedlings will be less needed afterwards, as the roots, gradually hardened, and cut up into pieces of 6 inches in length, make excellent plants and grow strongly. Practical papers, such as Mr. Record's, will help to bring this luxury in winter within the reach of the many having small gardens. With the roots packed in pots and boxes, we have known of many fine dishes obtained with no other help than darkness and the vicinity of a kitchen fire.

FRUIT GARDEN.

Much the same as last week, only we turned aside the light covering placed on the Vine borders in the end of autumn, removed the now rotten mulching that had been given in summer, slightly forked the ground just to break the surface, gave a sprinkling of bone dust, a little fresh soil, 2 or 3 inches of horse droppings as a mulching, and then about 1 foot of warm leaves to communicate a little heat to the soil, and to be used as a bed for Strawberries, covered with old sashes to give them a little start for houses, pits, &c. With the early covering of Vine borders with dry litter or fern, there would be little necessity for much fermenting material even for early forcing, as if the covering were put on, say about the end of September, the sun's heat during the summer would be prevented escaping. Though we had only a few inches of litter and leaves on the border, scarcely 6 inches, and loose and open, the heat of the soil in the border was fully 10° higher than in the open ground at 6 inches from the surface. Much injury, we believe, has often been done by huge mounds of hot fermenting material. There is a common opinion that heat rises and will not go down, but it does go down by conduction, as may easily be proved by placing sticks and thermometers in the soil at different depths in covered borders. Much may be done and with perfect safety by preventing the escape of the heat given to the soil by the summer's sun, and when hot fermenting material is used, it is safest to use it in moderation. The heat should not average more than 75° at from 4 to 6 inches from the surface.

We looked over late Grapes, and the fruit in the fruit room, where, on the whole, it is keeping better than last year, and Pears are unusually rich in flavour. The heat and the dryness were too much for them in 1868. Many trees were much injured by the dryness, and no waterings could be given them. The heavy rains of this afternoon (the 11th) will be a great boon to this part of the country, as water was anything but plentiful.

ORNAMENTAL DEPARTMENT.

In wet days much time was taken up in cleaning, picking, potting, &c. A few tree leaves enabled us to raise our frame beds higher from the ground, as those on the ground level containing forward Mignonette, &c., were beginning to show some signs of damp. A higher position where the plants could get more light made them all right. In all plant houses, as well as frames, there has been little occasion to look after atmospheric moisture, as the evaporation from the pots and the soil was quite enough in such misty weather. Even if now we should have brighter weather, less artificial vapour will be needed if we lessen our fire heat when we can obtain sun heat. By giving little air then, and that early, we do not give such free opportunity for the moistest air to escape, and, therefore, do not require to secure so much vapour artificially in the atmosphere of the house. This becomes a question of economy in houses kept at a rather high temperature, as it should never be forgotten that in obtaining moist vapour from a heated surface, you so far cool that surface, and, therefore, the more the vapour raised the more fire needed.

During this weather in all cold pits and frames, and in all houses heated merely to be safe, great care should be taken in watering to water only when required, and to spill or drop as little as possible. In the case of plants in pits and frames, where there is a dry surfacing to help to secure a drier atmosphere, and only a few plants need watering, it is safest to lift the plants out, and only replace them when the excess of moisture has drained away. Such things as Calceolarias and Cinerarias rarely suffer from a damp standing-ground or a moist atmosphere.

Flues.—Thanks to Mr. Robson for the article on flue-heating, page 456. We may expect more inquiries about them. We know that his round cement pipes answer admirably. We forget whether they pass under the doorways or not. There is no difficulty in this when the chimney is high enough. When the chimney is short it is better that there should be no dip. We find that what we have said of small outlet pipes from a stove in a house has led to misconceptions as the size of a pipe that could be taken from a furnace to act as a flue round the house. The two circumstances are entirely different. We would, therefore, be obliged to Mr. Robson and others to let us know the smallest diameter of a pipe that they have known to act well as a flue from a furnace. Six inches is the smallest bore we have known to act at all well, and that in a small house, and we would recommend that flues should never be less than 8 inches. As we have had many inquiries as to the small flues lately alluded to under the floor, part of the tiled floor forming the top of the flue, we may say that, inside measure, they are close on 5 inches wide and 8 inches deep, as the three bricks-on-bed have very narrow joints. These flues have no plastering inside or outside, except the joints, and the crossing the joints as described at top, as the heat of such simple flues tells mostly from the exposed surface. Where stability and economy in material are great objects, we believe that two bricks-on-bed would give a good flue. We think, however, that when a third brick is used, as with us, the draught would be rather more free, and there would be less necessity for frequent cleaning. We have never had much soot in ours when cleaned even at long intervals.

In reply to others, we would say that with good, sound, well-burned bricks, well soaked before being used, so as to take firm

hold of the fine mortar at the joints, we would have no plastering over the sides of the flue, either inside or outside. A correspondent tells us that the inside of his flue was carefully plastered with a composition of fine lime, cow dung, and other things, and that certainly it looked neat and smooth; but every now and then there is an explosion, and the bad gases pass into the house from pieces of the plastering falling down and arresting the draught. At the next cleaning we would clear all such plastering out, and if the bricks were at all ricketty, plaster the ontside instead. With good bricks we would plaster neither inside nor outside, and the flue will give out the heat of the furnace better. We may state, in conclueion, that in the case of such flues in temperate houses, they may be made wider than we have stated if the tiles for covering are also wider, but the width stated will be enough for ordinary-sized houses.—R. F.

COVENT GARDEN MARKET.—December 15.

Owing to the absence of orders from the provincial markets, business remains dull; and heavy stocks of winter goods are now accumulating. Quotations remain nearly the same as in previous reports. Hothouse Grapes and Pines are more than sufficient for the demand. Pears comprise Winter Nelis, Glou Morçeau, Chaumontel, and St. Germain. Apples are chiefly Newtown Pippin, Blenheim Pippin, and Nonpareils. Of Potatoes there is a heavy supply.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	3	0	to 5	0	Mulberries .... quart	0	0	to 0	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	0	0	0	0
Cherries..... lb.	0	0	0	0	Oranges 100	6	0	12	0
Chestnuts.... bushel	8	0	14	0	Peaches ..... doz.	0	0	0	0
Currants .... ½ sieve	0	0	0	0	Pears, kitchen .. doz.	2	0	3	0
Black ..... do.	0	0	0	0	dessert .... doz.	3	0	5	0
Figs ..... doz.	0	0	0	0	Pine Apples ..... lb.	3	0	5	0
Filberts ..... lb.	0	6	1	0	Plums ..... ½ sieve	0	0	0	0
Cobs ..... lb.	0	6	0	9	Quinces ..... doz.	0	0	0	0
Gooseberries .. quart	0	0	0	0	Raspberries ..... lb.	0	0	0	0
Grapes, Hothouse . lb.	3	0	6	0	Strawberries .... lb.	0	0	0	0
Lemons 100	6	0	10	0	Walnuts .....bushel	10	0	16	0
Melons ..... each	2	0	3	0	do. 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	3	0	to 6	0	Leeks ..... bunch	0	4	to 0	0
Asparagus 100	0	0	0	0	Lettuce ..... score	1	0	2	0
Beans,Runner ½ sieve	0	0	0	0	Mushrooms.... pottle	1	0	2	0
Broad .... bushel	0	0	0	0	Mustd.& Cress,punnet	0	2	0	0
Beet, Red.....doz.	2	0	3	0	Onions ..... bushel	3	0	4	0
Broccoli .....bundle	1	0	1	6	pickling .. quart	0	4	0	8
Brus. Sprouts ½ sieve	3	0	0	0	Parsley ..... sieve	3	0	0	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	9	1	0
Capsicums 100	0	0	0	0	Peas ..... quart	0	0	0	0
Carrots.....bunch	0	4	0	8	Potatoes .....bushel	2	6	4	0
Cauliflower..... doz.	3	0	6	0	Kidney.... ditto	3	6	4	6
Celery..... bundle	1	6	2	0	Radishes doz.bunches	1	0	0	0
Colewerts ..doz.bchs.	2	0	4	0	Rhubarb..... bundle	0	0	0	0
Cucumbers .... each	0	6	1	0	Savoys..... doz.	1	6	2	0
pickling .... doz.	0	0	0	0	Sea-kale ..... basket	3	0	4	0
Endive .....doz.	2	0	0	0	Shallots ..... lb.	0	0	0	6
Fennel .....bunch	0	3	0	0	Spinach ..... bushel	2	0	3	6
Garlic ..... lb.	0	3	0	0	Tomatoes ..... doz.	2	0	3	3
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	4	0	8
Horseradish ..bundle	3	0	5	0	VegetMarrows. ..doz.	0	0	0	0

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Annual Subscription (*Cincinnati*).—You will have seen in a notice published by us a few weeks since, that the subscription for a year is 17*s.* 4*d.* For that sum it can be sent to Cincinnati or other parts of North America, weekly, and post free.

Our Journal at Liverpool (*A Reader*).—If you have any difficulty in obtaining the Journal from your bookseller, apply to the nearest railway bookstall, and by paying your subscription in advance you can always have it regularly either at Liverpool or elsewhere.

Planting Roses on the Manetti Stock (*Poplar*).—"You have planted your Manetti Roses rightly, by placing the junction of the scion and stock 2 inches below the soil's surface, and they will do well in your light loamy soil. You can put on your marl or manure over the roots now, and draw the earth over it like a molehill. In the spring spread and fork your ground level. Manetti-stocked Roses like the ground to be moved often. The hotter the weather the more frequently it should be moved. Prune in the spring, say February or March. Cut the shoots from the base of the plant to different lengths if you wish for a bushy plant.—W. F. Radclyffe."

A Myrtle not Bushy (——).—The cause of the Myrtle cut down being badly furnished with shoots, is, perhaps, the shoots having grown long without stopping. We would cut the plant back in spring—each shoot to within 6 inches of its base, some being cut-in shorter than others, so as to form a compact plant. This would be best done in spring before the plant begins to grow. A compost of two parts light loam, and one part leaf soil or sandy peat, with a free admixture of sharp sand, will grow it well.

Acorn Growing in Water (*Idem*).—The acorn may now be placed in a glass or bottle filled with water to within half an inch of the acorn; put it in a dark closet for three weeks or a month. The small end should be placed downwards. Covering the acorn with a little moss will facilitate growth by keeping the acorn more moist.

Laying Turf and Gravel (*Idem*).—Turf may be laid any time from September to May in moist and mild weather, but we prefer doing it in autumn and early in spring. We consider gravel is best laid down in March; the walks are then made trim for summer, and we may calculate on weeds not troubling us much before the close of summer.

The Canadian Representative Plant (*Ebor*).—Your friend is quite correct—the Maple leaf is the badge of Canada. This is told in the national song of that dominion.

"On merry England's far-famed land
May kind Heaven sweetly smile;
God bless old Scotland evermore,
And Ireland's emerald isle;
Then swell the song, both loud and long,
Till rocks and forests quiver—
God save our Queen, and Heaven bless
The Maple leaf for ever!
The Maple leaf, the Maple leaf,
The Maple leaf for ever;
God save our Queen, and Heaven bless
The Maple leaf for ever!"

Seedling Apple (*W. H. Caparn*).—Your seedling Apple, Pickering's Seedling, is very good. The flesh is tender and delicate, the flavour excellent, with a nice aroma; and it is a good-sized handsome Apple.

Shrub Seed Sowing (*Poplar*).—The small cone sent is that of some of the Arbor-Vitæ family, but which we cannot say. The seeds, if there were any, had fallen out. They are not unlike small Apple pips, and if they are sound and plump you may gather them now, keeping them in a cool dry place until March; then sow them in sandy soil in a pan, and place them in a cold frame, keeping them moist, but not very wet. When the seedlings appear admit air freely, and in spring pot off singly, growing them in pots for a time, and then plant them out in the open ground in a sheltered position.

Apple and Pear Pips Sowing (*Idem*).—At the end of February or beginning of March sow them in the open ground in moderately rich light soil, scattering the pips rather thinly, and cover them about half an inch with finely pulverised soil. In a year or two the seedlings will be fit to transplant, and in the third or fourth year they will be fit for budding or grafting.

Cutting-back Magnolia grandiflora (*Devon*).—You may cut the Magnolia back to the height required, at the end of March or the beginning of April, but though you would secure a dwarfer plant for a time, it would not flower until it attained the height you name; indeed, if the plant be of good shape we strongly advise you to let well alone. We cannot name Aloes from leaves.

Removing Cinerarias from Cold Frames (*Idem*).—The plants ought to be kept in the frames as long as you safely can on the score of frost, as they are more healthy and compact in growth than when grown in heated structures and at some distance from the glass. Without heat we do not consider Cinerarias safe in frames after the beginning of November, and we should house them forthwith.

Cutting Down an Old Laurel (*H. D., Kent*).—Now is not a good time to cut down a Laurel. It ought not to be done until March, or, if the spring is cold, not until the beginning of April. Leave as much young wood as you can from the base of the plant.

An Arbor-Vitæ Bare at the Bottom (*Idem*).—Your only plan will be to tie what shoots you can into the bare places, distributing them so that with succeeding growth the bare places will be filled up. Probably by tying-in you may take away much of the loose open character of the tree. Removing the surface soil down to the roots, and replacing it with turfy loam, leaf soil, and old cow dung would give increased vigour. It may be done from now to March in mild weather. A few good soakings of water during dry weather in summer would do good.

Lilium auratum not Flowering (*M. H.*).—Perhaps your plants are not sufficiently vigorous for blooming, but we advise you to have the plant potted at once, removing most of the old soil as far as that can be done without injuring the roots, placing it in a pot sufficiently large to hold the roots without cramping them, and to allow for growth. A 9-inch pot will be large enough for an ordinary-sized bulb, though for a good-sized bulb it is not too large. Drain the pot well, and allow for top-dressing the plant in spring with rich compost. A compost of two parts fibrous loam, one part each sandy fibrous peat and leaf soil, or old cow dung, will grow it well. Keep the pot cool during the winter, and in a place free from drip, not setting it under stages, as is too frequently the case. The soil should be kept moist, and frost ought to be excluded. A cold pit or cool house is the best place to grow it in, affording it a light, airy position. Now is a good time to purchase plants in pots, but to buy bulbs earlier in autumn is preferable. It is not too late to pot Tulips for greenhouse culture, but they are far better potted at an earlier period.

Peat (*Ignoramus*).—The peat sent is fit for fuel, but quite unsuited for plant culture. Peat for gardeners' purposes is chiefly woody fibres with sharp siliceous sand intermixed.

Burning Charcoal among Plants (*J. C. M.*).—You will have seen what we said in answer to other correspondents last week. No fuel of

any kind can be burnt for any period among plants, unless there is a flue to carry off the fumes resulting from the combustion of the fuel, without causing the leaves to become yellow and fall.

Flower-Garden Plan (*A Young Beginner*).—In "Flower-Garden Plans" are drawings exactly suited for you, the forms of beds, plants for them, their arrangement, and culture. You can have it free by post from our office if you enclose 5*s.* 4*d.* in postage stamps, with your address.

Meteorological Questions (*Fairylike*).—These are not within our province, you had better write to the editor of some meteorological periodical.

Address.—A gentleman wishes to know the address of Mr. Pannell, formarly of the Renshaw Ironworks, Chesterfield.

Size of Iron Wire for Cordon Training (*T. T.*).—"Galvanised-iron training wires should be of size No. 10. At every 4 feet is needed a galvanised iron peg, with an eye for the wire to run through, and 4 inches in length for stone walls, and from 2½ to 3 inches long for brick walls. A long screw and nut will draw 200 feet quite tight. Should you wish to try the French "*raidisseur*," or tightener, you can then have thinner and cheaper wires and more of them. Instead of 12 or 15 inches interval, you may have 10 inches, which will not be too near for close pruning. These little raidisseurs are cheap (some cost only 3*d.*) and effective. There are several kinds, all fairly good. That exhibited in 1867 in the gardens may prove the best. Messrs. J. B. Brown, of Cannon Street, London, used to supply them in large quantities. Soft lead wire is a luxurious tie. The hard-frozen trees were, perhaps, rather precipitately planted. Gradual thawing is safer, but it is wonderful what trees will bear. The nature of the soil in which they now stand will much influence their recovery if warm and open. Protect the roots carefully from frost and cold drenching rains. Maiden cordons under glass can be pruned now, except in hard weather. But why not wait till February? If they are in the open air, by all means wait. Peach trees require more heading-down than Pear trees, as a rule, because one-year-old dormant buds of the Peach are not easy to move. Only equalise the points of Pear cordons the first season, and cut back in the winter.—T. C. Bréhaut."

Applying Soda to Fernery Rockwork (*A. E. F. C.*).—It is not safe to apply a solution of soda to the rockwork of a fernery, as it will destroy all the foliage it touches, making it quite black, and will injure the roots of many Ferns. We do not think it would kill slugs and caterpillars without injury to the plants. You may capture the slugs by searching for them at night with a lantern, and the caterpillars may be taken by day. They will be found secreted among the foliage.

Manuring Pelargoniums (*Idem*).—Remove the surface as deeply as you can without injury to the roots, and replace it with a compost of equal parts of fibrous loam, leaf soil, and old cow dung, or well-decomposed manure, raising it an inch or two higher than it was before. It would be quite early enough to do that in February, but you may do so now if you wish to encourage growth at this season.

Ornamental Water Plants (*A Subscriber*).—There are no "Lilies" with blue or red flowers that are hardy; but there are several besides the white Water Lily (Nymphæa alba) and yellow Water Lily (Nuphar lutea), but these two are the best of each genus, and, except for variety, others are not particularly desirable. Villarsia nymphoides, with heart-shaped leaves, and umbels of yellow flowers in June and July, requires deep water like the Nymphæas. Richardia æthiopica, well known as a pot plant, is hardy if placed deep enough in the water to have the roots beyond the reach of frost; the flowers are white. Calla palustris should be planted near the margin. For Alisma Plantago, flowers white marked with purple, 1 foot of water is required. Butomus umbellatus, flowers pink, in umbels on a long stalk, requires from 1 to 2 feet of water. Iris pseud-Acorus, reed-like, with yellow flowers in June, needs from 1 to 2 feet of water. Ranunculus aquatilis, white flowers early in summer, should be planted near the margin. Caltha palustris, and the double variety, with yellow flowers in May and June, should be planted on the margin. Menyanthes trifoliata, with white flowers in July, should also be planted on the margin; Lysimachia thyrsiflora, with yellow flowers from May to July, is also suitable for the margin; Hottonia palustris has flesh-coloured flowers appearing above the water, the plant entirely submerged, and requiring from 1 to 2 feet of water. Aponogeton distachyon, with fragrant white flowers, is one of the finest of aquatic plants, and in 1 foot of water it is quite hardy. It flowers from June to October. Others are Sagittaria sagittæfolia, white flowers from June to August, 1 foot of water, leaves arrow-shaped; and Stratiotes aloides, white flowers in June, 1 foot of water. In planting, all that is required is to secure them erect in the mud at the bottom. You will find a more extensive list in pages 225, 247, 312, and 330 of vol. v., New Series, as well as cultural hints.

Weeping Willow (*S. S.*).—"The good old Weeping Willow" you require is the Salix babylonica. The Kilmarnock Willow has larger leaves. Any nurseryman could obtain them for you.

Grapes and Pears (*G. B. F. S.*).—We think that your Muscat Vines are perfectly healthy. The Grapes you sent are over-ripe, and passing into the state of raisins. The wood not being quite ripened merely indicates that a little more heat should be given. Your Pear No. 1 is Beurré d'Aremberg. The other Pear was smashed and undeterminable.

Clinkers Forming Rapidly (*Devon*).—The greater the draught and the quicker the combustion of the coke, the more likely are clinkers to be formed. The making the coke small will not prevent it. Mixing the coke with blocks of wood would lessen the evil, and so would using coal that has little bitumen, and burns to a white ash without leaving a cinder. Where clinkers are an annoyance such coal would be an advantage, and the greater quantity of smoke would be lessened by a small aperture to admit air over the fireplace.

Hypocaust Heating (*A. B.*).—What we understand by hypocaust heating, is heating from beneath, and we do not think it signifies how the heat is obtained, if it is obtained and equally diffused. Heating from a furnace without pipes or flue would do as well for Pines as any other mode, provided the smoke could not come in contact with the roots of the plants, and more especially could not by any possibility escape into the atmosphere of the Pine house.

Weymouth Pine (*J. R. P.*).—Seventy-two feet in height, and 15 inches in diameter at 3 feet from the ground, are not extraordinary dimensions for the trunk of this tree grown in England. It is of slower growth here than in North America, its native place, where it attains a height of 150 feet. The timber it makes is called Canadian white pine and Punkin pine. In America the wood is more employed than that of any other Pine, and in the Northern States masts are exclusively made of it.

Management of an Ice Pit (*P. W. Fairgrieve*).—We rather question the propriety of the Fir branches at the sides of the earth pit for ice, they are so apt to enclose air. If anything, clean straw would have been better, or nothing at all, letting the ice come close to the earth. Then the keeping of the ice will mainly depend on the exclusion of wet and heat by the thatching, and this would be improved by letting the thatch come over the ground for a width of 4 feet all round. The ice would be still safer if there were a narrow trench 3 feet from it, as deep as the pit inside, and that made airtight by the thatching passing over it. The heat of the summer would then little affect the earth immediately round the pit. For ourselves we have been as successful with mounds entirely aboveground as when the ice was altogether or partly sunk in an earth pit, chiefly because the thatching kept out heat, and all moisture passed easily away. Nothing melts the ice so soon as confined moist vapour.

Removing Strawberry Leaves, and Old Raspberry Canes (*E. B. P.*).—We would remove no decayed or other leaves from Strawberry plants in the open ground until all danger from frost was over. Even then they will soon be out of sight and be covered by the young growth. The sooner the old bearing canes of Raspberries are cut down close to the ground the better. The bearing wood of last summer's growth should merely be shortened a little according to its strength, say from 3 to 3½ and 4 feet. The smallest should be thinned out.

Heating by a Stove (*C. B.*).—We do not think that any mode of heating by gas would be less expensive than by Joyce's stove, neither would it be safe. Strong argand burners in such a stove would be the most likely to answer in so small a greenhouse, and we should think would be safe if a small gas-pipe were taken from the top of the stove into the open air. There is this trouble with all stoves with prepared fuel, that one may run out of fuel when it is wanted most. A small stove ought to heat your house (15 feet by 9), and keep its temperature above 32 during all the frost we have had. You may say you cannot have a flue, but you might have a pipe 3 inches in diameter passing from your stove into the open air, and then you could burn coke or common cinders. Could not the Joyce's stove be so altered?

Heating from a Boiler at the Back of a Dining-room Fire (*J. F. C.*).—Your proposed plan will answer very well, of course with a rise of 8 inches from the boiler to the small tank. The top of the boiler will require to be close, not open. The front exposure of the boiler in the fireplace would do, more especially if the fire play on the bottom as well as the front. The tank, though small, should be divided, and the flow-pipe enter at one side and the return come from the other side. Iron will be the best material for the tank for your purpose, but wood sides would retain the heat longer, and, covered with iron or slate, would give you enough heat at the top. You would require to have a small box over the tank, with room for at least 3 or 4 inches of sand or other material to plunge in, and from 4 to 6 or more inches above that to let the cuttings grow. Cover with a small frame of glass, moveable, so that you can reverse the sides, upper and lower, as often as you need. For your tank, 3½ by 2½ feet, we would have a little box 7 inches deep in front, and 10 or 12 inches deep at back, and have two squares of glass in slight frames to cover it. These moveable, you can reverse them whenever the inside surface becomes damp, and thus avoid all wiping the glass. The tank should be 4 or 5 inches deep; it would be of little use were it deeper. With fire in the room all the evening the heat will be quite enough. In very cold nights you might pack the cinders in front of the boiler.

Flue-heating a Greenhouse (*D. J. D.*).—See "Doings of the Last Week," page 423, only below the line in italics, instead of "top" read "bottom" of flue. To make sure the depth there given is ample; there ought never to be less than 18 inches difference between the grate bars and the bottom of the flue. See also page 456 on heating by a flue. Our impression is, that the reason your unglazed pipes will not heat except close to the furnace, is, that your pipes are too much on a level with the furnace bars—not raised enough above them. This you could easiest remedy by sinking the furnace. Possibly also the furnace, which you say is large, may be too large for the size of the pipes. Such pipes should at least be on a level until they reach the chimney, and better still if there be a perceptible rise all the way. Possibly, too, the pipes and chimney have become filled with damp air, which needs to be dislodged. If you could make a small fire at the bottom of the chimney, where most likely you have an iron plate for sweeping, that might make a keen draught, and if so the flue-pipes would draw well afterwards. If you cannot do that, light some dry straw or shavings, small wisps, and place them burning down the open end of your iron chimney, repeating the dose several times, and immediately afterwards burning such dry stuff and dry wood in your furnace. If your furnace bars and pipes are right, most probably the smoke and heat will go along the pipes afterwards, instead of coming back and out at the furnace door. We should give these simple remedies a trial. In fresh-made flues, and flues long unused, we have had frequently to light a fire, as above, in the chimney, to draw out the damp heavy air. If these remedies do not answer, then there is something wrong in the position of the flue. If so, were we in your case, as the house is so small (15 feet by 6 feet), and the brick furnace is large and built inside the house—though fed and attended to from the outside, the furnace, as we presume, against the back wall—we would be perfectly satisfied with turning that furnace into a stove, making it from 3 to 3½ feet or even 4 feet in height, covering the top with tiles, a flag-stone, or an iron plate, and making a hole in the back wall 9 inches from the top, to be connected with your short iron chimney. With close-fitting doors, and a small ventilator in the ash-pit door to regulate draught, you would be sure to have enough of the latter, and plenty of heat to keep out any frost, and you would have no trouble with flues, or sinking the furnace. Meanwhile, as you have the pipes, try the above simple modes for encouraging a free draught. If you can keep an average heat of 45° at night, except in very cold nights, when the temperature of the house may fall 5° lower, you may easily have a few flowers all the winter. For instance—say that the winter extends from November to March, you can have for the first two months Scarlet and other Pelargoniums, Chrysanthemums, Chinese Primulas, Cyclamens, Heliotrope, Polyanthus, Violets, Mignonette, Wallflowers, &c. The bulbs would come in after Christmas; and from December onwards there would be of shrubs, Camellias, Ericas, Epacrises, Cytisus, Coronilla, Daphne indica odora, China Roses, Myrtles, &c.; also, such Fuchsias as serratifolia, and such

Tropæolums as Lobbianum. We would have entered more into details, but as you wish to have a book recommended, we would advise you to obtain "Window Gardening for the Many," from our office, price 9*d.*, or free by post 10*d.* You will there find minute details how to treat these plants, and the only difference would be that you have better chances than any mere possessor of windows. If you want any definite information we shall be glad to give it. Meanwhile, as a beginner, do not be disheartened; the best and simplest instructions will never teach you so well as your own practice, and, rightly looked at, a failure is often as valuable a teacher as a success. It was not kindness to lead you to expect crops of Grapes so soon after planting the Vines; and by the way, with Vines in such a house, it will not be advisable to have the temperature higher than 45° with fire heat all the winter.

Vinery Flue-heated (*W. B. B.*).—The door is to be in the south end, and the house is to be against an east wall, with a walk, we presume, from the door at the south end and along the east front merely. As the south sun will strike only on the end of the house, such a house will not do so well for Muscats as if it had a more southern exposure, but it will do. The flue, if single, should come in at the south end facing the doorway, or low enough there to come in beneath it, go along the front, and cross the north end to the chimney. If the doorway were reversed to the north end, we should propose the flue to enter there in preference. If you want much heat better have the flue above ground. The border had better be made the full breadth of the house. The Vines may be planted in front, if fully 6 or 9 inches from the flue, if the pathway is latticed; but if the pathway is solid the Vines had better be planted against the back wall and brought down the roof. The flue above ground will not interfere with the Vine roots. If you supported the front of the house on arches or piers, the roots could run outside; but 8 feet wide, with rich top-dressings, would keep the Vines prolific and healthy. With such a sandy bottom you would do well to brick it as you propose, or concrete the bottom, place over that 6 or 9 inches of open rubble, with a drain in front, and then from 18 to 24 inches of the best fresh fibrous loam you can find, and in such a border mix with it 6 cwt. of broken boiled bones, about one-tenth part of lime rubbish, and an equal amount of very rotten sweet dung. More bones may be used if boiled and merely broken. They will afford nourishment for a long time. The Grapes named will suit each other, but they will be late, and require more heat than such kinds as the Black Hamburgh and the Sweetwater.

Raspberry Planting (*Vicar*).—Your proposed plan of planting is very good, if the rows are at least 5 feet apart, but a rail 2 feet high will not be sufficient after the first season. We would recommend you instead to have stout elm posts 4 feet out of the ground—say 3 inches in diameter, and from 10 to 15 feet apart, and on these fasten two rows of wires one-twelfth of an inch in diameter, one 18 inches, the other 3 feet from the ground. The simplest way to do this is to straighten the wire by pulling it round the bole of a stout tree, then place one end against the first stake at the right height, drive in an iron nail close to it, say 3 inches long, for half its length, then bend the other half and knock it down firmly over the wire, and so with all the rest. Run a tar brush over the wire, and when dry tie the stems to it. You will soon save in ties the price of the wire over a rail. Of course, iron posts and stays, and wire properly strained, would be better and neater, and, perhaps, as economical in the end; but as you spoke of having a rail, we merely mention the above mode as a great improvement, and being also more economical.

Vinery Roof and Planting (*Merlin*).—Giving the height of a house 9 feet at back and 6½ feet in front, will not enable us to say exactly what the slope would be, as that slope would be different in a house 7 feet wide, from what it would be in one 12 feet wide, being much flatter in the latter case. If the half or so of the front upright were glass, then if the house were 11 or 12 feet wide, the roof would throw off the rain, and the perpendicular light would be so useful that the house would do well for general purposes. How can we tell the number of Vines you should plant, as you say nothing of the length of the house? We can speak more definitely of the kinds in an unheated house, as Black Hamburgh, Black Champion, and Black Prince, White Frontignan, Buckland Sweetwater, and Royal Muscadine. For Vines alone, and a moderate width of house, the Vines may be planted 4 feet apart; but as you wish to have Peaches, Figs, &c., you may have Peaches and Nectarines against the back wall, and Peaches and Nectarines in pots on the front border. For these to do well, the Vines should be 6 or 7 feet apart when established. For the back wall, select such Peaches as Bellegarde and Noblesse, and such Nectarines as Elruge and Violette Hâtive, and for pots or tubs, or trained to a low trellis, such kinds as Royal George, Barrington, and Walburton Admirable Peaches; Downton, Rivers's Orange, and Hardwicke Nectarines; and such Figs as Brown Turkey and White Marseilles. If you heat the house a little, the same plants would do, but if fond of the Muscat flavour, you might have the Muscat of Alexandria in the warmest place, the Muscat Hamburgh anywhere, and Trentham Black. We are sorry to say, however, that we have little faith in your proposed mode of heating. The simple fire-brick furnace 3 feet below the ground level is all right enough, but the two 3-inch pipes, one from each side going round the house and out at a corner, are a very problematical affair. These, if at all horizontal, would, we fear, soon clog up, and require constant looking to, even if fuel producing little smoke were used. We have little faith in flues placed horizontally, if not fully the double the diameter proposed. From 8 to 12 inches in diameter would be safer for cylindrical pipes. See answers as to stove and flue-heating to-day, and pages 423 and 456. The Pelargoniums referred to in page 366 were packed firmly in earth, watered, surfaced as described with dry soil, but all the tops were left exposed. The lime and charcoal on the cut parts were to prevent bleeding and decay.

Reineckia carnea (*Schubert*).—It was introduced by Mr. Evans, of Stepney, from China in 1792, and was then called Sanseviera carnea, or S. sessiliflora. It is a Liliaceous plant of the sub-order Aloeæ. It was flowered for the first time in the January of 1803, by a firm then at Kensington, Messrs. Grimwood & Wykes. They cultivated it as a stove plant, but it is said to be nearly hardy. We shall be obliged by information relative to its culture by those who have bloomed it.

Muscat Trovéren Grape (*J. Anderson*).—It is best known as the Trovéren Frontignan. It is an excellent Grape, requiring as high a temperature as the Muscats. We cannot tell the parent of the grub without seeing a specimen.

Pears for Double Grafting (*Centurion*).—Try any of the following which are arranged in the order of the value we set upon them:—Doyenné du Comice, Maréchal de la Cour, Marie Louise, Alexandre Lambré, Glou Morçeau, Jargonelle, or Citron des Carmes.

Chrysanthemums Flowering Imperfectly (*Roche*).—We should think it arises from the plants being weak. Not having sufficient water and support in summer would cause it; or it may be a result of the plants being kept too warm and close in the greenhouse, or of the roof being shaded and covered with climbers. A dozen good large-flowering Chrysanthemums are:—Flenr de Marie, White Beverley, and Rotundiflorum, whites or blush; Lady Talfourd, Pink Perfection, Fingal, rose-coloured; Hercules, Ossian, and Lord Clyde, or Purpureum Elegans, purple and crimson shades; Golden Beverley, John Salter, and Guernsey Nugget, yellows. They are rather new, but not very expensive.

Training Gouros against Walls (*A. T. F.*).—The Gourds may be trained against walls, but not well without a trellis, though by careful tying and nailing you may probably keep the Vines from breaking. They would require to be raised in a hotbed in spring, and be put out, when strong well-hardened plants, at the end of May. Abundant supplies of water will be required in dry weather. We think the other two you inquire about would require glass. We have no experience of them out of doors.

Names of Fruits (*G. Godbold*).—We cannot name the varieties of florists' flowers. Your Pears are:—1, Beurré Diel; 2, Napoléon; 3, Nouveau Poiteau. The Apple is Pearson's Plate.

Names of Plants (*A. R. C.*).—Libonia floribunda. (*Miss Sophy Webster*)—Your Dendrobium most probably is D. chrysanthum, the other Orchid is Zygopetalum Mackayii. Send us your Conifers again when convenient, and we will do our best to assist you. (*W. M. B.*).—2, Blechnum occidentale; 3, Adiantum cuneatum; 4, Asplenium, probably A. dimorphum; 5, Diplazium sylvaticum. (*Mary K.*).—Your flower is that of Aspidistra lurida. The flowers are always produced round the base of the leaves close to the soil. (*J. Turner*).—Your Conifer is the Cedar of Lebanon. (*R. W.*).—Nerine undulata. (*J. K.*).—Your Orchid bloom was dreadfully crushed when it reached us, so we can merely guess at it. We believe it to be Epidendrum cochleatum. (*W. C.*).—Your "Blechnum" proves to be Doodia caudata. (*A. Lee*).—Hakea semiplena, with entire leaves; Hakea purpurea, with three or four-partite leaves. (*R. L.*).—Your Orchid spike is certainly that of a Cymbidium, and we think, also, of the species C. bicolor, but you give us no information as to its foliage, or whether its spikes are drooping or erect. The flowers had changed colour, but so far as we can tell, it is identical with Cymbidium bicolor. (*A. W. Mirfield*).—Oncidium barbatum.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 14th.

Date.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 8	29.887	29.831	43	36	42	41	E.	.00	Dense fog; dull and foggy; densely overcast.
Thurs. 9	29.852	29.838	42	38	42	41	E.	.00	Dense fog; exceedingly foggy; dense fog.
Fri.... 10	29.882	29.824	49	39	43	41	E.	.00	Overcast; densely overcast; overcast.
Sat.... 11	29.436	29.356	51	24	45	42	S.	.30	Cloudy; heavy clouds; heavy rain.
Sun... 12	29.523	29.408	47	35	44	43	S.	.04	Clear and frosty; showery; clear and fine.
Mon... 13	29.456	29.200	52	39	44	42	S.	.02	Overcast; densely overcast; boisterous.
Tues.. 14	29.467	29.252	52	35	43	43	W.	.30	Clear and fine; very fine; clear, starlight.
Mean..	29.643	29.529	48.00	35.14	43.71	41 86	...	0.66	

POULTRY, BEE, AND PIGEON CHRONICLE.

VARIATION OF COLOUR IN POULTRY STRAINS.

One of your correspondents last week, writing on this subject, asks, Is not white a sign in most animals of impurity of strain or cross? I believe it is a sign of deterioration in physical power, and I see no reason why it should not be so as to colour and other hereditary dispositions. This, even established as a fact, would not affect my statement quoted by your correspondent—namely, that white and black, and white and yellow, seem to be interchangeable colours, whilst red remains unchanged.

The results of your correspondent's attempt in mating Cochin hens of a uniform sandy buff colour for one season with a

White Dorking cock, and in the following season with a Grey Dorking cock, go far to prove my statement. The result of the first year's breeding was to produce from the yellow hens by a white cock bird exactly what I stated—namely, white for yellow. The result of the second year would seem to show that yellow and black stand in the same position. At all events the white neck, hackle, back, saddle, and wing of the Grey Dorking answered the condition of a change from yellow to white in the progeny of the Buff Cochin hens; for sandy buff is to all intents and purposes a yellow. That black and white are interchangeable is, beyond the result in breeding Pile Game, widened by the fact that in mating Golden-spangled with White Polish fowls, to produce the Chamois Polish, the black spangle becomes white.

The case of interchange between yellow and white is not so clearly shown as the above, and that between yellow and black needs more experiment before it can be asserted. The matter, however, is of very great interest, and by experiment it may lead to the establishment of certain laws connected with colours in breeding, of which we are at present ignorant.

By pursuing this inquiry, the breeding of fancy poultry will add to its importance in combining the science of natural laws with amusement; and the question, which in a former number I mooted with regard to the external influences of colour, will, if established by experiments, be one of very many proofs that the Holy Scriptures are veritable records, and the truthful exponents of everyday life if we will but read them practically, and not regard them afar off as tables of stone on a cloud-capped mountain.—Egomet.

COMMITTEEMEN EXHIBITING.

I refrained from replying to "Egomet's" letter in the Journal of the 11th November, as before doing so I was desirous of seeing "Justice's" answer to my question. Since then, business and other engagements, and a sick house, have prevented my attending to the subject, and on returning to it I find I have a deal of leeway to make up. I can assure "Egomet" I did not consider his first communication as "meddlesome." I think that when any question is opened up in the columns of a public journal it becomes at once public property, and it is competent for anyone to express an opinion on the matter.

Reverting to my article of November 4th, I really am at a loss to discover what there is in it to justify "Egomet" in drawing the "*quid pro quo*" inference. To a committee such as I have in my eye, anything like a money value, "*quid pro quo*," is the very last thing which would enter their minds. I must say I think the deduction hardly a fair one. I admit the "confusion of pronouns," but if "Egomet" will refer to the article again I will try to make it clear. I meant that it—*i.e.*, the offer of a local cup—affords him—*i.e.*, the local exhibitor—an opportunity of competing among his fellows for a a trophy which the foreign exhibitor cannot touch; it—*i.e.*, the local cup, is far beyond his (the foreign exhibitor's) reach, by being made local. The "contingency" I supposed was that of a local man winning both cups; and what I meant by its frequent recurrence defeating the object of a committee in offering a local cup was just this, that it would show there was no necessity for offering any additional inducement to the local man, since his success would demonstrate his capability to compete successfully against all comers, and in such a case, were I on the committee, I should then move the withdrawal of the local cup as having accomplished its mission. I hope I make myself sufficiently understood. I am reasoning on the supposition that if the All-England cup be considered beyond the reach of the local man, then let him have his local cup; but, if the result of a show proves that the local man can win the All-England prize, then remove the local cup as having no honour attached to it beyond its value as old silver.

On the 18th November "Justice" replies for himself. He says that the evil consequent upon committeemen exhibiting at shows under their own management "simply consists in the amount of dissatisfaction and distrust it engenders in the minds of absent exhibitors." I anticipated his reply. I am sorry if "Justice" has experienced satisfactory grounds for such "distrust and dissatisfaction." If so, let him for the future avoid the society where he suspects foul play. But I am afraid he is of a rather suspicious disposition, and I think he cannot censure me for speaking so plainly, when he advances such an unheard-of idea as that exhibitors should be allowed to witness the judging where practicable! His previous statement that committeemen should not be allowed to exhibit, of course implied a guilty complicity on the part of the judges, without whose connivance no fraud could be perpetrated, and I am not now surprised at his openly stating that the judges themselves should be under the eye of the exhibitor. He appears to have been at a show where such an insult was offered to a judge, and where a man was found to tolerate such espionage. I do not envy the committee who allowed such a proceeding; they did not know their business, which would perhaps account for their appointing the individual to handle the birds, who took "valuable birds by the leg, the wing, and not unfrequently by the neck, and handed to the judge for examination." What was the judge about, what were the lynx-eyed exhibitors about, that they did not take him by the neck?

I must either be very incapable of expressing my meaning intelligibly, or "Justice" reads with strange mental obliquity, when he interprets what I say about "measuring with their own eyes," &c., to mean anything so absurd as his construction of it. I agree with him; such Quixotic conduct, as he describes, on the part of any exhibitor would indicate "sheer madness." "Anything more preposterous than such an idea" it is difficult to imagine. I never contemplated such a thing.

"Justice" further says that he cannot agree with me "that local prizes are given on the assumption that the local man has but small chance against the outside competitor." That is the only ground on which I justify the offering of a local cup. Once let the local man prove his ability to enter the All-England arena, and then away with the local prize, prescribed as it is in its orbit, and consequent value as a prize. I wish "Justice" to understand that I know nothing of Long Sutton or its shows, or what may have transpired there. I am only trying to show that the offering of a local prize ought not to affect the interests of outside exhibitors in the slightest degree, and I am also trying to show that when such local prize has accomplished the only object which would justify its institution, it should then be withdrawn, being barren of honour, as the greater would include the less.

Then "An Old Committeeman" takes up the cudgels, followed by "Claude," who arrives at conclusions quite foreign to the spirit of my communication. The commercial element he introduces has no home with my "carpet knights," and "Claude" ought not to impute such mercenary motives to exhibiting committeemen—it is not charitable; but I can assure him that, as an almost universal rule, shares in a poultry show would be quoted in the market very much below par. The rest of his letter I am disposed to pass by: the pictures are so dismal. But I cannot see what "conscientious" scruples there can be to prevent a person undertaking the office of committeeman for no other reason than that the show does not pay expenses, for that is all that "Claude's" statement amounts to. "All exhibitors have been pleased," and therefore there must have been fair play, and no distrust or dissatisfaction. But their pleasure is damped by having to subscribe to make up a deficit. Permit me to say that it is no damper to a right-thinking body of men. They enter into the work *con amore*, and are quite prepared to meet the exigencies of the case, and the fact of the recipient of this deficit being a stingy committeeman does not do away with the deficit which would exist whether he were on the committee or not. The mistake is in having such a stingy man in office. To assume, also, that this unfortunate man's prize money is the total deficiency of the society shows a bad state of things, for no show ought to issue its schedule till the amount of prize money is guaranteed or in hand. Pay all prizes first, and promptly, too, and then, in case of a deficit, let all fare alike, and the stingy character will have to pay his share, or find his level in a society more congenial to his money-grubbing propensities. I hope the poor man who spent a sixth part of his yearly income when he could not afford it has no wife and children. Let me advise that he be closely watched by his friends.

"An Old Committeeman" is, as "Egomet" says, "so temperate and persuasive;" I have to thank him for a line of argument I could not have followed out so ably as he. His remarks, December 2nd, involve very weighty considerations, for, as I have mentioned before, a corrupt committee implies a corrupt judge. Can such things be? I read an *exposé* some time back, in which two new hats and a sovereign were placed in the scale as the exhibitor's estimate of a judge's integrity, and in that case the bribe

"Flew up and kicked the beam."

I cannot believe in corrupt judges as a class, and without them we cannot have corrupt committees, and I think that curtailing the action of a committee on grounds that impeach alike their

integrity and that of the judge, is indeed treading on very delicate ground. To prohibit committeemen exhibiting would not effect a cure, for the corrupt judge would still be accessible from without, and a corrupt committeeman would soon find means to evade the *bonâ-fide* property clause found in most schedules, and secure to himself, with the connivance of another unprincipled exhibitor, the coveted prize. "Where there's a will there's a way" in knavery as in honest dealing, and while I fully concur with "EGOMET" in the axiom that prevention is better than detection, I ask him, as one who, I am fully persuaded, has the best interests of exhibitions at heart, whether it is well to encourage that spirit of distrust and dissatisfaction only too often the offspring of groundless suspicion, and so hurt the feelings of honourable men, whose conduct of the shows they manage is such as ought to place them above suspicion? Shows so conducted are sure to occupy the most prominent position in the estimation of all right-thinking men, and while every precaution ought to be taken to ensure fair play, and so merit the confidence of the exhibiting community, I should be much grieved if malpractices became so general as to render imperative a universal vote of want of confidence in the executive of our shows.

If I am not trespassing on space too much (and let me beg an extra line or two as I have been silent so long), I will just explain to "EGOMET" and "JUSTICE" the working of a very large show—the largest provincial show of its kind in England—with which I am connected. Our committee, I am happy to say, are all gentlemen, and nearly all, if not all of them, are exhibitors in every show we manage. When our entries are closed we send out a numbered label for each entry, which is attached to the pen, cage, or animal, as the case may be. These are subsequently changed by the secretary, who alone possesses the key to the whole. This duty generally occupies him the entire night, from the close of the receiving day till the next morning, and unless any of the committee are very early astir, and make it their business to enter the show room (which they are expected for honesty's sake not to do), not one of them knows his new numbers, so that collusion with the judges is next to an impossibility. Next, we have judges of known repute, who are shut into the room by daylight on the judging day, and allowed to communicate with no one till their duties are over, when they deliver their verdict to the committee and such exhibitors as may happen to be in or near the building, and who are invited to hear the awards announced. Last year the result of the verdict was that our All-England cup and our local cup were both won (for the first time) by one of the committee, who at once received the congratulations of several non-successful exhibitors present, who year after year have come hundreds of miles to compete for our prizes, and to whom the working of our show is as familiar in its details as to ourselves. Our patrons are legion, and I do not believe there is one of them who would wish to debar a single committeeman from exhibiting, or one whose confidence in us is not unbounded.—ALIQUIS.

THERE can be no doubt that poultry shows are now more numerous and successful than they ever were before, and to keep them in this satisfactory state all unfair acts of exhibitors, secretaries, and committees, should be properly exposed; and I quite agree with Mr. Wright, that an organisation or "court of appeal" should be formed, where we could discuss any subject connected with poultry. I think we should likewise take notice of unsatisfactory awards made by the judges, for many prizes recently given to exhibitors have been far rom satisfactory to the great body of those who support our shows, and I hope to see this subject thoroughly ventilated in your columns. I feel certain if something of this kind existed, we should not find the uneasiness now felt by some of your correspondents at secretaries and committees exhibiting at their own shows.

The last-named subject appears to have created a vast amount of dissatisfaction amongst a few gentlemen. Why, I am at a loss to conceive. I happen to be acquainted with a large number of breeders and exhibitors of poultry and Pigeons; some are secretaries, others are committeemen, while others are only exhibitors, but in every case where the subject has been mooted, one and all considered that secretaries and committeemen have a perfect right to compete for prizes at their own shows. The prizes and expenses are guaranteed by the committee, should the undertaking prove a failure they have to make good the deficit. The prizes are open to all, and subject to the same rules, then why should not committeemen compete too? "Oh!" says one directly, "he then becomes a hireling." Is it possible for a man to become a "hireling" on his assisting to guarantee certain sums of money for an open competition, the birds to be judged by an experienced and well-known, but an entirely disinterested gentleman, who knows not to whom the birds belong? He may win nothing, and at the close have to pay a sum of £20 towards the expenses, just as one secretary I knew had to do. One might say with equal justice that the whole body of committeemen become "hirelings," because they are paid money in the form of entry fees by competitors who wish to be allowed to compete for the prizes, and, to carry the idea a little further, that a successful exhibitor also becomes a "hireling" of the committeemen, on his receiving a prize in an open and equitable competition.

On these conditions it seems to me unfair and unjust to brand a secretary or committeeman as a "hireling," because he chooses to compete with others at his own show. If otherwise, then I for one must say good-bye to our poultry shows, for depend upon it they will soon cease on taking away their main support. Another talks of "dissatisfaction." Well, everyone knows about that, and I think all will admit there has hardly ever been a show held where it was not to be found. Some exhibitors are disappointed at their not getting a prize, some justly, others because they can never see their own faults. We shall always find this to be the case where a number of people compete for a few prizes.

I was much pleased with some of the remarks made by "CLAUDE," the more so because he unintentionally hit the right nail on the head. His sentence runs as follows—"We look upon these shows as a means to encourage us to improve the breed of our stock, and to enable those who take an interest in this, for the love of it, to compete." There he is right, "to improve the breed, and for the love of it to compete."—AN AMATEUR.

I THINK if "EGOMET" and "CLAUDE," considered the matter even for an instant, they could not arrive at their present conclusion with reference to committeemen exhibiting at their own shows. As has been often asserted in "our Journal," poultry shows must be organised by those who are themselves fanciers, and who must make every effort, even at great personal inconvenience, for the advancement of the exhibition, otherwise almost invariably it will be a failure. Now, it is in many instances the case (I am a committeeman, and it is in mine), that the show of which an exhibitor is a committeeman is the only one which he has an opportunity of attending, or at which he has an opportunity of seeing his birds compete with others. If in his capacity of unpaid official he were precluded from exhibiting he would have but two alternatives—namely, either to lose in a great measure the pleasure he has in producing good birds, or to resign his position as committeeman; and if every local exhibitor resigned his place on the committee, perhaps "EGOMET" or "CLAUDE" could suggest as to how the show would be sustained. I really must say the remarks of many writers of late cast a very unfair slur on the character of committees in general.

The basis of the objection to officials exhibiting must be, that they have opportunities of communicating with the judges, which outsiders have not. To this accusation, for I must call it one, my only reply can be that any one, no matter who he may be, who takes advantage of an unscrupulous judge by endeavouring to obtain prizes to which he is not justly entitled is not fit to remain in the society of honourable men. I am sure that the discovery of any unfair dealing on the part of any member of a society would result in his ignominious expulsion. The judges are also pointed at; for if they are strictly upright and honourable men, which I believe the leading ones of the present day to be, they will not lend an ear to the nefarious proposals of any exhibitor, but of course if they think fit they are able to defend themselves.

I hope that the majority of exhibitors will now see the impossibility of organising a show without the personal co-operation of fanciers, and the absurdity of denying those amateurs who undertake the arduous duty of committeemen the gratification of seeing their birds join in an honourable competition, and on equal terms with other exhibitors.—AN IRISH COMMITTEEMAN.

WHITEHAVEN POULTRY SHOW.—This annual show will take place on the 28th, 29th, and 30th inst., the first day being private and for judging, the second and third for public exhibition. The prizes offered almost in every class consist of five and three-guinea cups, with money prizes of £2, £1, 10s.,

&c. The Judges already appointed are, for poultry, Messrs. Hewitt and Teebsy. A Judge for Pigeons will be appointed. The entries close on December 16th. Further particulars are in our advertising columns.

DORKING POULTRY SHOW.

Most poultry amateurs would naturally anticipate something unusually good from a locality so noted in the poultry world as Dorking, and those who were so fortunate as to be able to visit the Show held on the 9th and 10th inst. would find their anticipations realised. The general classes were well filled with some of the finest specimens in the kingdom. The managing Committee have evidently an eye to utility, for except Coloured *Dorkings*, Blue Speckled Dorkings, and White ones, the only other classes in the Show were *Turkeys*, *Geese*, and Rouen and Aylesbury *Ducks*. The latter classes, too, had many most excellent birds in them, perfect in plumage, and of capital size. Dorkings, however, are naturally the main feature of the Dorking Show, and it would be difficult to imagine better-filled classes than those purposely restricted to the neighbourhood, and those open to every one who chose to enter for competition.

The first class for old birds was open to all England, and the plate prize was secured by Dr. Campbell, very closely pressed, however, by the second-prize pen belonging to Mr. Henry Humphrey, of Ashington, Sussex. The second class (also open) was for a cockerel and two pullets, but here a truly remarkable pen of chickens belonging to the district, the property of Messrs. Ivery, kept the plate in the locality; Mr. Parlett taking the second, and Dr. Campbell the third prize. In the open class for Coloured Dorking cockerels there was much competition, the Rev. E. Bartrum, Mr. C. Havers, and Mr. M. Putney taking the three prizes. For the local classes it would be invidious to say anything farther than that all the birds were excellent, and the colour of all was unusually good, whilst the condition was absolutely faultless. A reference to the appended prize list will prove that the prizes were unusually broadcast. The Blue Speckled Dorkings were not nearly so commendable classes as the Whites, the latter being much better than those entered at most poultry shows. We cannot forbear a passing mention of Mr. Joseph Clift's pair of old Dorking hens, and also Mr. Ivery's splendid pair of pullets of the same variety. As the Assembly Rooms were not sufficiently capacious to hold the whole of the entries, the Turkeys, Geese, and Ducks were exhibited in two very large coach houses. Mr. Billett, of Southampton, supplied the exhibition pens, which are well calculated to show off all descriptions of poultry to great advantage, being somewhat larger than most pens of this description.

Dorkings (Coloured).—1, Dr. Campbell, Brentwood. 2, H. Humphrey. 3, H. Lingwood. *c*, Major Calvert. *Chickens.*—1, J. Ivery & Son, Dorking. 2, F. Parlett. 3, Dr. Campbell. *hc*, Major Calvert; A. & E. Stanford. *c*, J. Clift. *Cockerel*—1, Rev. E. Bartrum, Great Berkhampstead. 2, C. Havers, Ingatestone. 3, M. Putney. *hc*, Dr. Campbell; Lord Turnour, Shillinglee Park. *c*, W. Fell; J. Ivery & Son.

White Dorking Cock.—1, Lady Legge. 2, W. Attlee. *c*, Mrs. Matheson.

LOCAL CLASSES.

Dorking (Coloured).—1, M. Putney. 2, J. Ivery & Son. 3, H. Lainson. 4, E. T. Bennet. *Chickens.*—1, G. Ellis. 2, J. Clift. 3, J. Ivery & Son, Dorking. 4, Major Calvert. *hc*, J. Clift; J. Ivery & Son; M. Putney. *c*, E. T. Bennett; G. Ellis. *Hens.*—1, J. Clift. 2, M. Putney. *hc*, E. T. Bennett; Major Calvert; W. Fell; J. Ivery & Son. *c*, D. B. Green. *Pullets.*—1, J. Ivery & Son. 2, W. Fell. *hc*, E. T. Bennett; M. Putney. *Cock.*—1, J. Ivery & Son. 2 and *c*, E. T. Bennett. *Cockerel.*—1, J. Wood. 2, M. Putney. *hc*, J. Ivery & Son. *c*, W. Fell; J. Ivery & Son.

Dorking (Blue Speckled).—1, W. Griffin. *Chickens.*—1, W. Griffin. 2, J. Wood; 3, J. Carpenter. *Cock.*—1, E. Neal. *Hens or Pullets.*—1, Major Calvert.

Dorking (White).—1, W. Attlee. 2, G. Cubitt. 3, J. Bargman. *hc*, W. Shearburn. *Chickens.*—1, Mrs. Burt. 2 and *hc*, J. Attlee. 3, W. Shearburn. *Hens or Pullets.*—1, W. Attlee. *hc*, W. Attlee; T. Sherlock.

Ducks (White Aylesbury).—1, J. B. Nichols. 2, H. Lainson. 3, E. T. Bennet. *hc*, J. Wood.

Ducks (Any other breed).—1, A. Belcher. 2, J. Ivery & Son. 3, Mrs. Norris. *hc*, G. Cubitt, M.P.

Geese.—1, Mrs. Norris. 2, W. Messenger. *c*, J. Rose. *Goslings.*—1, W. Messenger. 2, W. Attlee. *hc*, H. Wise.

Turkeys.—1, Sir R. A. Glass. 2, W. Messenger. *c*, H. Lainson.

The Judge was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, near Birmingham.

LONGTOWN POULTRY SHOW.

This Show, though small, was very well managed, and the specimens well attended to. The quality of the birds was very good in all departments. The first-prize single *Game* cockerel was a neatly-moulded bird, though a little out of condition, and the second and third-prize birds were also fair specimens. The adult Game cocks were excellent in colour, and good in hand, but the next class of chickens was not so good. The first-prize Duckwing cock was of striking quality in colour and marking. Of *Hamburghs*, only the winners were noteworthy; but the *Dorkings* and *Spanish* were good and well shown. In the "Variety" class excellent White Bantams were first, with Silver *Polands* second. Some of the Game *Bantams* were very neat and game-looking, though some of the others were too long in the wing. The *Geese* were very large, and the first-prize Toulouse of capital colour. Dorkings and Rouen Ducks won respectively in the selling class. In the class for *Bantams* of any variety except Game, Blacks of the highest quality were first, with neat Booted Whites second.

Among the *Pigeons*, Carriers were first, Pouters second, and Fantails third and highly commended. The *Canaries* were mostly of the common straight varieties, but were very good.

Game.—1, W. Graham, Cliff. 2, J. Gaddess, Harker. *hc*, Joseph Brough, Carlisle. *Chickens.*—1, John Brough, Carlisle. 2, R. Fawkes, Crossings. *c*, J. Pearson, Bradford; J. Barrow, jun., Kendal. *Cock.*—1, — Ackroyd, Bradford. 2, J. Gaddess. 3, J. Barrow, Kendal. *hc*, John Brough. *c*, J. H. Dawes; R. Jackson, Carlisle; Joseph Brough.

Game (Duckwings, &c.).—1, T. Davidson, Longtown. 2, John Brough. *hc*, W. Walton, Cocklake.

Hamburghs (Golden-spangled).—1, S. & R. Ashton, Roe Cross, Mottram. 2 and *hc*, R. Rickson, Selkirk.

Hamburghs (Golden-pencilled).—1, Mrs. Johnson. 2, E. Grieve, Chapel Hill, Canonbie. *hc*, E. Greave; H. Pickles, jun., Earby, Skipton. *c*, J. Armstrong, Longtown; T. Kean, Hollows; J. Nicholson, jun., Carlisle.

Hamburghs (Silver-spangled).—1, W. Bowe, Carlisle. 2, J. Pearson, Allerton. *hc*, H. Pickles, jun. *c*, W. Crosthwaite, Stanwix.

Hamburghs (Silver-pencilled).—1, J. Pearson. 2, H. Pickles, jun.

Dorkings.—1, H. Pickles, jun. 2 and *hc*, R. Reed, Moat.

Spanish (Black).—1, H. Wilkinson, Earby. 2, R. Reed.

Any other Variety.—1, S. & R. Ashton (White Bantams). 2, J. S. Watson, Earby, Skipton. *hc*, J. B. Story, jun., Milnhead, Dumfries (Partridge Cochins). *c*, T. McKie, Esk Bank (Scotch Greys).

Game Bantams (Any colour).—1, R. Little, Dickstree. 2, G. Hall, Kendal. *c*, T. Taylor, Kendal; Joseph Brough.

Geese.—1, D. Hardie, Sorbie. 2, Mrs. McBurnie, Fauld Mill. *hc*, R. Reed.

Ducks (Aylesbury).—2, D. Hardie.

Ducks (Rouen).—1, D. Hardie. 2, T. Taylor.

Selling Class.—1, R. Reed (Dorkings). 2, D. Hardie (Rouen Ducks). *vhc*, J. B. Story. *hc*, Mrs. Johnston (Golden-pencilled); S. & R. Ashton. *c*, T. Taylor (Ducks); H. Wilkinson (Buff Cochins).

Sweepstakes for Hens.—*Dorkings.*—1, M. Taylor, Penrith. *Hamburghs.*—1, J. Sibson, Carlisle. 2, H. Pickles, jun. *hc*, J. Armstrong. *Game.*—1, Bellingham & Gill, Burnley. 2, R. Irving, Dickstree. *hc*, E. I. Musgrave, Longtown. *Cochins.*—1, J. B. Story. 2, M. Taylor, jun., Penrith.

Bantams (Any variety except Game).—1, W. H. Tomlinson, Newark-on-Trent (Black). 2, J. B. Story (White). *hc*, H. Pickles, jun. (Black).

Pigeons (Any variety).—1, J. Guthrie, Hexham (Carriers). 2, J. & W. Towerson, Egremont. 3, W. H. Tomlinson. *hc*, W. H. Tomlinson (White Fantails); F. D. Graham, Birkenhead. *c*, J. Sibson (Dun Carriers); J. and W. Towerson; H. Sawyers, Carlisle (Yellow Turbits).

Canaries Any variety).—*Cock.*—1 and 2, W. Hutton, Purdhams Crook. *hc*, Miss E. Jackson, Longtown; J. H. Jackson, Longtown; J. Chambers, Longtown. *c*, T. Davidson, Longtown.

The Judge was Mr. Hutton, of Pudsey.

YORK POULTRY SHOW.

This was held on the 7th, 8th, and 9th inst., in conjunction with the Christmas cattle show.

The entries of Poultry were 334; of Pigeons, 157; of Rabbits 69; total 560; being an increase of 145 pens over last year. The longest ears of the Rabbits measured 22½ inches; and the heaviest weighed 14¼ lbs. The following is a list of the awards:—

Dorking (Any colour).—1, J. White, Warlaby. 2, W. Bearpark, Ainderby Steeple, Northallerton. *Chickens.*—1, J. White. 2, T. E. Kell, Wetherby.

Spanish.—1, H. Beldon, Goitstock, Bingley. 2, E. Brown, Sheffield. *Chickens.*—1, H. Beldon. 2, E. Brown.

Cochin-China (Yellow or Buff).—1 and Cup, C. Sidgwick, Ryddlesden Hall, Keighley. 2, H. Steward, Bishopthorpe.

Cochin-China (Any other colour).—1, C. Sidgwick. 2, J. Bell, Thirsk. *Chickens.*—1, C. Sidgwick. 2, H. W. Illingworth, Idle.

Brahma Pootra.—1, W. Whiteley, Clough Lodge, Sheffield. 2, G. Palfreyman, jun., Heeley, Sheffield.

Game (Black-breasted or other Reds).—1, H. M. Julian, Hull. 2, T. Hawks, Hunsingore, Wetherby.

Game (Duckwings).—1, E. Winwood, Worcester. 2, H. M. Julian.

Game (Any other variety).—1, G. Pounder, Kirby Moorside. 2, E. Winwood. *Chickens.*—1, J. H. Smith, Skelton. 2, T. Dyson, Halifax.

Hamburghs (Golden-pencilled).—1, J. Walker, Birstwith, Ripley. 2 and 3, H. Beldon.

Hamburghs (silver-pencilled).—1, H. Smith, Morton Banks, Keighley. 2, H. Pickles, jun., Earby. 3, H. Beldon.

Hamburghs (Golden-spangled).—1, J. Rellinson, Lindley, Otley. 2, W. Driver, Keighley. 3, T. Dean, Keighley.

Hamburghs (Silver-spangled).—1 and 3, H. Beldon. 2, R. Pickles, jun.

Polish.—1, Mrs. Proctor, Hull. 2, H. Beldon.

Game Bantams.—1, Bellingham & Gill, Burnley. 2 and 3, W. Hodgson, Darlington.

Bantams (Laced).—1, H. Beldon. 2, F. Powell, Knaresborough.

Bantams (Any other colour).—1, G. Atkinson, Darlington. 2, W. Hodgson.

Any other Variety.—1, C. Sidgwick. 2, R. Loft, Woodmansey, Beverley.

Turkeys.—1, F. C. Matthews, Driffield. 2, J. B. Braithwaite, North Otterington. *Poults.*—1, F. C. Matthews. 2, E. Barker, Stokesley.

Geese.—1, G. Hustler, Stillingfleet. 2, Lord Wenlock, Escrick Park.

Ducks (Aylesbury).—1, J. Story, Warter, Pocklington. 2, W. Stonehouse, Whitby.

Ducks (Rouen).—1 and 2, Mrs. Stamper, Highfield House, Oswaldkirk.

Ducks (Any variety).—1 and 2, C. N. Baker, Chelsea.

Selling Class.—1, G. Calvert, Darlington. 2, H. Beldon. 3, J. Hearfield, Darlington.

PIGEONS.

Carriers.—*Cock.*—1, W. R. & H. O. Blankinsop, Newcastle-on-Tyne. 2, E. Horner, Harewood, Leeds. *Hen.*—1 and Cup, J. Thompson, Bingley. 2, F. J. Leach, Middlesbrough.

POUTER (Any colour).—*Cock.*—1, E. Horner. 2, J. Hawley. *Hen.*—1 and 2, E. Horner.

TUMBLERS (Almond).—1 and 2, J. Fielding, jun., Rochdale.

TUMBLERS (Short-faced).—1, R. Minnitt, jun., Healey, Rochdale. 2, J. Fielding, jun.

FANTAILS.—1, T. Rule, Durham. 2, D. McCollin, Hull.

TRUMPETERS.—1, J. Firth, jun., Dewsbury. 2, S. Robson, Brotherton, Ferrybridge.

BARBS.—1, 2, and piece of plate, J. Gell, York.

JACOBINS.—1, E. Horner. 2, J. Thompson.

TURBITS.—1, G. Fletcher, Acomb Landing. 2, H. Whittaker, Heslington.

OWLS.—1, J. Fielding, jun. 2, F. Key, Beverley.

NUNS.—1 and 2, W. Croft, Killinghall, Ripley.

ANY OTHER NEW OR DISTINCT VARIETY.—1, J. Fielding, jun. 2, E. Horner.

SELLING CLASS.—1, J. Thompson. 2, E. Horner. 3, W. Campey, Beverley.

RABBITS.—*Lop-eared.*—Cup for best buck or doe, bred in 1869, T. Taylor, York; also special prize for longest-eared. *Lop-eared buck or doe, self-coloured* (All properties).—1, C. Gravil, jun., Therne. 2, C. King, St. John's Wood, London. *Lop-eared buck or doe, Yellow and White, or Tortoiseshell* (All properties).—1, A. H. Easten, Hull. 2, B. Hudson, Hull. *Lop-eared buck or doe, Black and White, or Grey and White* (All properties). 1, A. H. Easten. 2, J. Hume, York. *Heaviest.*—1, J. Pearson, York. 2, A. H. Easten. *Himalayan.*—1, J. Ranstreu, Haslingden. 2, J. Butterworth, Rochdale. *Dutch.*—1, T. W. Harrison, York. 2, S. G. Hudson, Hull. *Any other Variety.*—1, A. H. Easten. 2, P. F. Martin, Rawcliffe. *Selling Class.*—1, S. Hall, York. 2, C. King.

Judges for *Poultry:* Mr. R. Teebay, Fulwood, Preston; for *Pigeons:* Mr. W. Massey, Spalding, and Mr. H. Brown, Walkeley, Sheffield; for *Rabbits:* Mr. Millington, of York.

BRADFORD POULTRY SHOW.

THE following is the prize list of this Show, held on the 9th, 10th, and 11th inst:—

SPANISH.—Cup, C. W. Brierley, Haywood, Manchester. 2, H. Wilkinson, Earby, near Skipton. Extra 2, H. Beldon, Goitstock, near Bingley. *hc*, W. R. Bull, Newport Pagnell; J. F. Dixon, Cotgrove, Nottingham; F. & C. Haworth, Haslingden; Burch & Boulter, Sheffield. *c*, J. Thresh, Bradford; F. & C. Haworth.

DORKINGS.—1, H. Crossley, Bleomfield, Halifax. 2, W. Harvey, Sheffield. 3, W. H. King, Rochdale. *hc*, R. W. Richardson, Beverley; E. Leech, Rochdale; J. Martin, Claines, Worcester. *c*, Hon. H. W. Fitzwilliam, Wentwerth Woodhouse.

GAME (Black-breasted Red).—1, W. Beyes, Beverley. 2, E. Aykroyd, Bradford. 3, W. Spencer, Haworth.

GAME (Brown-breasted Red).—Cup, E. Aykroyd. 2, T. Bottomley, Shelf, Halifax. 3, W. Johnson, Idle.

GAME (Any other variety).—1, J. Fletcher, Stoneclough, Manchester (Duckwing). 2, J. Sunderland, Halifax (Pile). 3, C. Chaloner, Whitwell, Chesterfield. *hc*, E. Nayler, Heckmondwike (Duckwing). *c*, W. J. Cope, Barnsley (Duckwing).

BRAHMAS (Dark).—1, Hon. Mrs. B. Hamilton, Ridgweed, Woburn. 2, F. Powell, Knaresborough. 3, E. Leech, Rochdale. *hc*, W. Harvey; H. Lacy, Hebden Bridge; F. & C. Haworth, Newfield. *c*, H. Lingwood, Needham Market.

BRAHMAS (Light).—1, H. Lacy. 2, J. Pares, Postford, Guildford. 3 and *c*, W. Whiteley, Sheffield. *hc*, F. Crook, Forest Hill.

COCHIN-CHINA (Cinnamon and Buff).—Cup, W. A. Taylor, Manchester. 2, J. Cattell, Birmingham. 3, H. Mapplebeck, Moseley, Birmingham. *hc*, W. Harvey; Mrs. Allsepp; J. Lee, Middleton. *c*, Bowman & Fearon, Whitehaven; R. White.

COCHIN-CHINA (Any other variety).—1, W. A. Taylor. 2, T. Stretch, Ormskirk (Partridge). 3, R. White (Partridge). *hc*, H. Lingwood (Partridge); Bowman & Fearon.

HAMBURGHS (Golden-pencilled).—Cup, J. Smith, Goitstock, Bingley. 2, H. Beldon, Goitstock, Bingley. 3, J. Walker, Keadsl. *hc*, J. Laming, Cowburn, Spalding; T. Wrigley, jun., Middleton.

HAMBURGHS (Silver-pencilled).—1, J. Walker, Birtswith, Ripley. 2, Mrs. Allsopp. 3, Duke of Sutherland, Trentham, Steke-en-Trent. *hc*, R. Longbottom. *c*, W. Park.

HAMBURGHS (Gold-spangled).—1, T. Dean. 2, W. Driver, Keighley. 3, W. A. Hyde, Ashton-under-Lyne. *hc*, J. Chadderton, Hollingweed; H. Pickles, jun, Earby, Skipton; J. Rollinson, Lindley. *c*, J. Chadderton; J. Ogden, Hellingweed.

HAMBURGHS (Silver-spangled).—Cup and 2, Ashton & Beeth, Mottram. 3, J. Laming. *hc*, W. A. Taylor; J. Fielding, Newchurch, Manchester.

HAMBURGHS (Black).—1, C. Sidgwick, Ryddlesden, Keighley. 2, S. Butterfield, Keighley. 3, T. Walker, jun., Denton. *hc*, J. Smith, Keighley; D. Clayton, Bradford; J. Holt, Middleton. *c*, J. Laming.

POLANDS (Any variety).—1 and Oil Painting, W. Harvey. 2, H. Beldon. 3, W. Gamon, Chester. *hc*, T. Dean; W. Patrick, West Winch (Gold).

ANY OTHER DISTINCT BREED.—1, W. R. Park (Crève-Cœurs). 2, R. Loft, Woodmansey (Sultans). 3, Hon. C. W. Fitzwilliam, Wentwerth Woodhouse (La Flèche). *hc*, W. Harvey (French); L. Biney, Manchester; J. J. Waller, Kendal (Malays); S. H. Stott, Rochdale (Houdans); W. H. Towle, Southport (Houdans).

GAME BANTAMS (Black Reds).—Cup, G. Maples, jun., Wavertree. 2, J. H. Wilson, St. Bees. 3, G. Noble, Staincliffe. *hc*, J. Holland, Northwich; J. R. Robinson, Sunderland.

GAME BANTAMS (Any other variety).—1 and Painting, J. Stabler, Great Driffield (Piles). 2, T. Whittaker, Melton Mewbray (Piles). 3, J. Cresland, jun., Wakefield (Duckwings). *hc*, W. F. Entwisle, Westfield (Black Game); J. Cresland, jun. (Brown Reds); E. & J. Lund, Shipley (Duckwing); W. Parker, Clay Cross (Piles); A. Ramsden, Swamp, Queensbury; W. Greaves, Bradford (Duckwing); Bellingham & Gill, Burnley (Piles); G. Smith; J. Frith.

BANTAMS (Any other variety).—1, J. Walker (Black). 2, Miss A. Hodson, Bridgewater (Sebright). 3, Mrs. Woodcock, Rearsby, Leicester (Japanese). *hc*, W. A. Taylor (Black); W. H. Robinson (Black); W. Cannao, Bradford (Black); J. H. Dawes (Japanese); W. J. Cope (Pekin).

SELLING CLASS.—1, J. Newton, Silsden, near Leeds (Spanish). 2, W. A. Burnell, Southwell, Notts (Buff Cochins). 3, Mrs. J. Cross (Crève-Cœurs). 4, R. Loft (Sultans). 5, C. W. Brierley. *hc*, T. Dean (Polands); J. Bewker, Keighley (Poland); S. Bentham, Bradford (Game); J. Smith (Game); Rev. P. W. Storey, Daventry (Japanese Bantams); W. A. Burnell (Buff Cochins); W. Johnson, Idle, near Leeds (Game); J. Powell, Bradford (Spanish); C. Travice, Thorland, near Sheffield (Game and Cochins); E. Leech; J. Sugden, Thornton, near Bradford (Hamburghs); H. Wilkinson (Brahmas); J. White; C. W. Brierley; J. S. Waller; J. W. Wilkinson; Gunson & Jefferson, Whitehaven; T. Suddick, Bradford (Game); W. J. Cope (Game). *c*, J. T. Beeth (Spanish); W. Charter, Great Driffield; J. Berry, Silsden (Spanish); J. Hodgson, Bradford (Game); J. W. Wilkinson (Game); J. Spencer, Clayton, near Bradford (Game); H. Jowett, Idle, near Leeds (Game).

SINGLE COCKS.—*Game* (Any colour).—Cup, C. W. Brierley. 2, W. H. Robinson, Keighley. 3, N. Grimshaw. *hc*, J. Fletcher (Black Red); Capt. G. Price; J. H. Wilson. *Bantam* (Any variety).—Cup, J. W. Morris. 2, G. Hall, Kendal (Game). 3, Bowman & Fearon. *Hamburgh* (Any variety).—1, W. A. Hyde (Golden-spangled). 2, S. Lord, Rochdale. 3, T. Kinder, Mickelthwaite, near Bingley (Golden-pencilled). *hc*, W. Clayton (Golden-pencilled). *Cochin* (Any colour).—1, W. A. Taylor. 2, Mrs. Allsopp. 3, J. Cattell. *hc*, J. K. Fowler, Aylesbury (Partridge).

GAME HEN (Any colour).—Cup, E. Ackroyd. 2, C. W. Brierley. 3, J. Fletcher (Black Red). 4, C. Chaloner. *hc*, J. Fletcher (Black Red); J. R. Robinson; J. Walker; R. Payne, Brierfield, Burnley; W. Whewell, Redcliffe, near Manchester. *c*, W. Whewell.

DUCKS (Aylesbury).—1 and 3, H. Jones, Dinton, Ayleshury. 2, W. Stonehouse. *hc*, E. Leech; T. Wilson.

DUCKS (Rouen).—1, A. Woods, Sefton, Liverpool. 2, W. Gamon. 3, E. Leech. *hc*, J. K. Fowler; A. & J. Trickett, Waterfont, near Manchester.

DUCKS (Any other variety).—1, C. W. Brierley. 2, S. Burn (Mandarin). 3, C. & J. Trickett. *hc*, S. Burn (Black East Indian); A. & J. Trickett; C. W. Brierley; S. & R. Ashton (Carolina).

PIGEONS.

CARRIERS.—Cup, W. Harvey. 2, F. Wiltshire, West Croydon. 3, J. C. Ord, Pimlico. *hc*, F. Cressley, Elland, Halifax; J. C. Ord. *c*, F. Crossley.

POUTERS.—1, F. Crossley. 2, W. Harvey. 3, H. Snowden, Great Horton, near Bradford. *hc*, W. Gamon; G. Sturgess, Leicester; H. Snowden; T. W. Kilburn, East Grimstead. *c*, E. Walker.

TUMBLERS (Almond).—1 and 3, F. Wiltshire. 2, F. Crossley. *hc*, F. Cressley; F. Wiltshire. *c*, W. Harvey; J. H. Ivimy.

TUMBLERS (Any other variety).—1 and 2, W. Harvey. 3, J. Fielding, jun., Rochdale. *hc* and *c*, F. Crossley (Agates and Kites).

BARBS.—1, W. Cannan. 2 and 3, F. Crossley. *hc*, F. Cressley; J. Firth, jun., Dewsbury. *c*, E Horner, Harewood, Leeds; J. Fielding, jun.

OWLS.—1, F. Crossley. 2, Miss F. Easton, Hull. 3, J. Fielding, jun. *c*, T. Eggleston, Halifax.

TURBITS.—1, J. T. Lishman, Bradford. 2, R. Bairstow, Bradford. 3, J. Hawley, Bingley. *hc*, E. Horner; F. Crossley. *c*, E. Horner; Miss F. Easton.

FANTAILS.—1, E. Horner. 2, H. Yardley, Birmingham. 3, J. C. Ord. *hc*, W. Harvey; W. R. Park; E. Horner; G. Sturgess. *c*, J. Lister, Keighley.

JACOBINS.—1, W. Cannan. 2 and 3, J. Thompson, Bingley. *hc*, E. Horner. *c*, E. Horner; J. C. Ord.

TRUMPETERS.—1, J. Hawley. 2, J. Firth, jun. 3, W. Harvey. *hc*, W. Harvey; E. Horner; W. Gamon; J. Thresh. *c*, E. Horner; S. A. Taylor, Coldfield, near Birmingham.

DRAGOONS.—1, W. Harvey. 2 and 3, W. Gamon. *vhc*, T. Smith. *hc*, E. Horner; H. Allsop; J. Thompson; J. Percivall; T. Lambert. *c*, W. Harvey; E. Horner; J. Thompson.

ANTWERPS.—1 and 3, J. Hawley. 2, J. Mills. *hc*, E. Horner; J. J. Bradley; H. Yardley. *c*, W. H. Mitchell, Keighley; J. Mills.

MAGPIES.—1, J. T. Lishman. 2 and 3, E. Horner. *hc*, J. Hawley; H. Draycott; J. T. Lishman.

ANY OTHER VARIETY.—1, J. T. Lishman. 2, E. Horner. 3, W. Harvey. *hc*, H. Draycott, Humberstone; H. Yardley; J. T. Lishman. *c*, T. Stretch (Nuns); G. Sturgess (Swifts).

SELLING CLASS.—1, E. Walker (Pouters). 2, J. Percival (Isabels). 3, J. Hawley. *hc*, Mrs. J. Cross (German Feather-footed Tumblers); J. Thompson; J. Lister. *c*, W. Harvey; F. Key, Beverley.

JUDGES.—*Poultry:* Mr. R. Teebay, Fulwood, Preston, and Mr. J. Hindson, Liverpool; *Pigeons:* Mr. W. Massey, Spalding, and Mr. E. Hutton, Pudsey.

ROYAL DUBLIN SOCIETY'S WINTER SHOW.

THIS Show was held in Dublin, December 7th, 8th, and 9th. The following is the prize list:—

DORKINGS (Silver-Grey).—1, W. Mulligan, Belfast. 2, G. Purdon, Killucan. 3 and *c*, Mrs. Warburton, Naas. *hc*, R. P. Williams, Clontarf. *Chickens.*—1, Miss Drevar, Blackrock. 2, *hc*, and *c*, Mrs. Warburton.

DORKINGS (Coloured).—1, Mrs. Hay, Cork. 2, Mrs. Warburton. 3, R. P. Williams. *hc*, Mrs. R. Clay. *Chickens.*—1, J. C. Cooper, Limerick. 2, W. Mulligan. *hc*, Mrs. Hay. *c*, Mrs. Warburton.

SPANISH.—1, Miss Drevar. 2, Hon. Miss D. Pennant, Bangor. *hc*, W. Mulligan; R. P. Williams. *c*, G. A. Stephens; R. P. Williams. *Chickens.*—1, Hon. Miss D. Pennant. 2, Miss Drevar. *hc*, W. Mulligan. *c*, Mrs. Melville.

BRAHMA POOTRA.—1, Hon. Miss D. Pennant. 2, Mrs. Warburton. Extra 2, Capt. Dowaman. *Chickens.*—1, G. A. Stephens, Dublin. 2, Capt Downman. *hc*, Hon. Miss D. Pennant. *c*, Mrs. Warburton.

COCHIN-CHINA.—1 and 2, F. W. Zurhorst, Dublin. *hc*, Hon. J. Massy; F. H. Green, Belfast. *Chickens.*—1, Mrs. Hay. 2, R. P. Williams.

GAME.—1, C. E. McClintock. 2, G. A. Perrin. *c*, Hon. J. Massy, Limerick. *Chickens.*—1 and *c*, G. A. Perrin. 2 and *c*, C. E. McClintock.

HAMBURGHS (Pencilled).—1, Hon. J. Masey. 2, C. E. McClintock. *c*, J. C. Cooper.

HAMBURGHS (Spangled).—1, Capt. Downman. 2, G. A. Stephens.

POLANDS (White-crested Black).—1 and 2, Miss Drevar.

LA FLÈCHE.—1 and 2, G. A. Stephens.

HOUDANS.—1, Mrs. Hay. *c*, G. A. Stephens.

CRÈVE-CŒUR.—1 and 2, F. W. Zurhorst.

ANY OTHER VARIETY.—1, J. C. Cooper (Saltans). 2, F. H. Green (Silver Polands). *hc*, Mrs. Green; F. W. Zurhorst (Silkies).

GAME BANTAMS.—1, F. W. Zurhorst. 2, W. G. Mulligan; *c*, G. F. D. Sutherland.

BANTAMS (Any other variety).—1, L. F. Perrin (Blacks). 2, J. K. Millner (Rumpless).

SINGLE COCKS.—*Dorking.*—1 and 2, R. Dove. *hc*, W. Magrath; G. A. Stephens. *c*, G. N. Furdon; S. Mowbray; J. Barlow; Mrs. Warburton. *Spanish.*—1, W. Mulligan. *c*, W. Mulligan; Miss Drevar. *Cochin.*—1, W. H. Perrin. 2, R. P. Williams. *c*, W. H. Perrin; J. C. Cooper. *Brahma.*—1, G. A. Stephens. 2, R. W. Boyle. *La Flèche.*—1 and 2, G. A. Stephens. *hc*, Capt. Downman. *Houdan.*—1, G. A. Stephens. 2, J. C. Cooper. *Crève-Cœur.*—1, P. J. Waldron. 2, J. C. Cooper. *Game.*—1 and *c*, G. A. Perrin. 2 and *hc*, C. E. McClintock.

TURKEYS.—1, J. C. Cooper. 2, Hon. J. Massy. 3, S. R. Magee. *hc*, E. A. Leale. *c*, J. Bourke. *Poults.*—1 and *hc*, Miss King. 2, J. C. Cooper. *c*, S. Mowbray. *Cocks.*—1, J. C. Cooper. 2, P. J. Waldron. *hc*, B. O'Connor.

GEESE.—1, 3, and *c*, Mrs. Warburton. 2, J. Bourke. *hc*, W. H. Perrin; Hon. J. Massy.

GEESE (Fat).—1, R. P. Williams. *hc*, Hon. J. Massy. *c*, Mrs. Warburton.

DUCKS (Rouen).—1, W. G. Mulligan. 2, R. P. Williams. *c*, J. C. Cooper.

DUCKS (Aylesbury).—1, R. P. Williams. 2, S. Mowbray. *hc*, G. A. Stephens; W. G. Mulligan. *c*, Miss Wallace.

PIGEONS.—*Carriers.*—1, C. F. Staunton, Cloudalkin. 2, J. McDonnel, Rathmines. *c*, Miss Caparn. *Cock.*—1, F. H. Green, Belfast. *hc*, A. Evans. *c*, E. M'Crae, Stdlorgan. *Hen.*—1, F. H. Green, Belfast. *hc*, C. F. Staunton. *Tumblers.*—1 and 2, R. Wallace, Donoybrook. *hc*, E. A. Leale; C. F. Staunton. *Fantails.*—1, E. M'Crea. 2, E. Leale; *hc*, E. Leale; Miss Caparn; A. Evans; C. F. Staunton. *Any other Variety.*—1, J. K. Milner (Barbs). 2, E. M'Crea (Ice). 3, C. F. Staunton (Turbits). *hc*, L. F. Perrin; C. F. Staunton. *c*, E. A. Leale; G. A. Stephens.

JUDGES.—Messrs. P. H. Jones, Fulham; J. Dombrain; and A. Comyns, Dublin.

TREDEGAR POULTRY SHOW.

THIS Show, which was held at Newport, Monmouthshire, on the 14th and 15th inst., was a success, marred only by the too late arrival of some of the best specimens of both poultry and Pigeons. So late, indeed, were some of these that the judging had been completed more than two hours, and what is more to be regretted, most of the late arrivals were birds which would have taken leading positions.

Some of the *Game* were very faulty as regards the feet, and soft in hand, but the winning pens were very fine, especially the first-prize Reds, and the pen of Duckwings that carried off the plate. Some of the *Spanish* were good, but roughness of face prevailed. The *Dorkings* were large-framed birds, and the dark *Brahmas* were also good. The cup for *Hamburghs* went to Golden-pencilled; this section was notably good. A cup was also awarded to *French* fowls; it brought an entry of capital birds, and the cup was borne off by one of the best pens of Crève-Cœurs we have seen of late. Game *Bantams* were good, but the Blacks were not so good as desirable, faulty combs being the order. White Bantams were much better than the Blacks, and Pekins and Sebrights won in the "variety" class. In the class for any other breed, Black Hamburghs were first, and Malays second. Aylesbury *Ducks* were a fair lot, but the Rouens were better, and the "variety class" was the most attractive of all, containing the most exquisite Mandarins, Carolinas, Shell, Musk, and Braziliams. *Geese* and *Turkeys* were much improved, as compared to those shown in previous years, both in respect to size and plumage. In the selling class there were forty-two entries, and many cheap lots were sold.

Of *Pigeons*, the Carriers and Ponters were very good in all particulars. Fantails formed a good class, both White, Blue, and Black being well represented. Of other varieties Nuns were first. Dutch Ponters second, and Red Swallows third.

GAME (Black or Brown-breasted Reds).—1, E. Aykroyd, Bradford. 2, Capt. Grove, Taynton. 3, W. C. Phillips, Worcester. *hc*, W. Bradley, Worcester.

GAME (Any other variety).—1 and Cup, H. C. & W. J. Mason, Drighlington. 2, W. C. Phillips. 3, E. Aykroyd. *hc*, W. Dunning, Newport, Salop; W. Nicholas, Caerphilly. *c*, G. Cole, Llanelly; E. Chilcott.

SPANISH.—1 and Cup, H. Beldon, Goitstock, Bingley. 2, J. R. Rodbard. 3, Tonkin & Tuckey, Bristol. *hc*, J. Stephens, Walsall; D. Lane, Gloucester.

DORKING (Any variety).—1, J. Martin, Claines, Worcester. 3, Miss A. B. Morgan, Dimlands, Cowbridge. *hc*, H. Pickles, jun., Earby, Skipton; L. Pattoo, Hillmore, Taunton; N. G. Russell, Kington. *c*, Lord Tredegar, Tredegar Park, Newport.

COCHIN-CHINA (Any variety).—1 and Cup, Miss J. Millward, Newton-St. Lee, Bristol. 2, Mrs. J. E. Brewer, Gorelands, Newport. 3, J. R. Rodbard, Wrington, Bristol. *hc*, Mrs. Allsopp, Worcester. *c*, J. Gwyone, Buckland; C. Taylor, Gloucester.

BRAHMA POOTRA (Light).—1, W. J. Cradock, Maindee, Newport. 2, J. Buckley, Llanelly. *hc*, T. A. Dean, Moreton-on-Lugg, Hereford. *c*, Mrs. Pearson, Cardiff; Lord Tredegar.

BRAHMA POOTRA (Dark).—1 and 2, Rev. J. Bowen, Talgarth. *vhc*, Mrs. Allsopp. *c*, C. Taylor, Gloucester; W. B. Etches, Whitchurch.

HAMBURGH (Gold-pencilled).—1 and Cup, J. Walker, Birstwith, Ripley. 2, H. Beldon. *hc*, W. Speakman, Nantwich. *c*, H. Pickles, jun.

HAMBURGHS (Silver-pencilled).—1, H. Beldon. 2, J. Walker. *hc*, J. Pearson, Bradford; Mrs. Allsopp. *c*, H. Pickles, jun.

HAMBURGHS (Gold-spangled).—1, S. & R. Ashton, Roe Cross, Mottram. 2, H. Pickles, jun. *hc*, H. Beldon; N. Marlor, Denton, Manchester.

HAMBURGHS Silver-spangled).—1, H. Beldon. 2, J. Walker. *vhc*, Mrs. Flynn, Hardingswood, Kidsgrove, Stoke-on-Trent. *hc*, J. Buckley. *c*, W. Bairstow.

POLANDS (Any variety).—1, H. Beldon. 2, J. Hinton, Warminster. 3, H. Laver, Colchester. *c*, J. Lankford, Brislington, Bristol.

HOUDANS.—1, C. Homfray, Newport. 2, J. G. Rose, Bath. *hc*, W. O. Quibell, Newark; Mrs. Llewellyn, Court Coleman, Bridgend.

ANY OTHER FRENCH VARIETY.—1 and Cup, C. Homfray (Crève-Cœur). 2, H. Wyndham, Wawne, Beverley (Crève-Cœur). 3, C. Taylor (Crève-Cœur). *c*, J. G. Ross (Crève-Cœur).

GAME BANTAMS.—1 and Cup, W. F. Entwisle, Westfield, Cleckheaton. 2, Mayo & Washbourne, Gloucester. *vhc*, E. Payne, Cardiff. *hc*, R. N. Barlow, Wrexham. *c*, W. Boutcher, Notting Hill, London; W. H. Tomlinson, Newark-on-Trent.

BANTAMS (Black, Clean-legged).—1, E. Cambridge, Bristol. 2, S. & R. Ashton. *vhc*, E. Cambridge. *hc*, H. Draycott. *c*, W. H. Tomlinson; H. Draycott.

BANTAMS (White, Clean-legged).—1, H. Draycott. 2, S. & R. Ashton. *hc*, Mayo & Washbourne. *c*, J. Walker.

BANTAMS (Any other variety).—1, H. Draycott. 2, Mayo & Washbourne.

ANY OTHER DISTINCT BREED.—1 and 4, Rev. W. Serjeantson (Black Hamburghs). 2, J. Hinton (Malays). 3, Mrs. Llewellyn (Sultans). 5, R. H. Nicholas (Black Hamburghs). *hc*, R. H. Nicholas (Black Hamburghs); N. Marlor (Black Hamburghs); S. Butterfield, Keighley (Black Hamburghs). *c*, J. M. Kilvert, Wakefield (Black Hamburghs).

GUINEA FOWLS.—1, Hon. F. C. Morgan, Newport.

DUCKS (Aylesbury).—1, Lord Tredegar. 2, C. Homfray. 3, E. C. Phillips, Brecon. *hc*, G. Thompson, Tregroes, Bridgend; Mrs. M. Jones, Newport.

DUCKS (Rouen).—1, Lord Tredegar. 2, H. J. Evans, Pwlloch, St. Mellons. 3, C. Homfray. *hc*, J. Cloud, Monmouth; H. Garsed, Park, Pentyrch; W. Cooper, Abergavenny. *c*, Rev. C. T. Salisbury, Newport.

DUCKS (Any other variety).—1 and 2, C. Homfray (Mandarins and Carolinas). *hc*, S. & R. Ashton Carolinas); C. Homfray (Brazilian); Lord Tredegar; Rev. W. Serjeantson. *c*, J. M. Kilvert, Ludlow.

GEESE.—1 and 2, R. Rees, Abergavenny. 3, D. Jenkins, Christchurch, Newport. *hc*, J. G. Holford, Buckland, Crickhowell; Hon. F. C. Morgan; Mrs. Matthews, Tredunnock, Llangibby.

TURKEYS.—1, Lord Tredegar. 2, Miss J. Milward. 3, Mrs. Allsopp. *hc*, Mrs. A. Stallard, Caerleon.

SELLING CLASS (Fowls).—1, W. J. Cradock, Maindee, Newport, Mon. (Brahmas). 2, R. H. Nicholas (Bantams). 3, C. Homfray, Newport (Houdans). 4, J. Skinner, Caerleon, Mon. (Dorkings). 5, S. Butterfield, Keighley (Black Hamburghs). *hc*, G. Thorne, Newport, Mon. (Andalusians); J. Skinner (Dorkings and Bantams); J. G. Holford, Buckland, Crickhowell, Brecon (Dorkings); Mrs. Llewellyn (Dorkings); R. H. Nicholas (Black Hamburghs and Silkies); J. Laybourne (Black Hamburghs); J. Percivall, Harborne, Birmingham (Polands). *c*, J. S. Phillips, Newport, Mon. (Black Red Game); E. Shaw, Plas Wilmot, Oswestry (Grey Dorkings); J. Buckley (Dorkings); D. W. J. Thomas, Brecon (Cochin-China); R. H. Nicholas (Game); H. H. Thompson, Hilmarton, Calne (Golden-pencilled Hamburghs); J. G. Holford.

SELLING CLASS (Ducks).—1, C. Homfray (Brazilian Ducks). 2, E. Shaw (Aylesbury Ducks). 3, J. E. Brewar, Gorelands, Newport (Aylesbury Ducks). *hc*, Mrs. Sketch, Lisswerry, Newport, Mon. (Barrow Ducks). *c*, Mrs. Llewellin (Brazilian Ducks); J. Skinner (Aylesbury Ducks).

SWEEPSTAKES FOR COCKS.—*Dorking.*—1, E. Shaw. *Game.*—1, F. Randell, Kidwelley, Carmarthen. 2, J. W. Jones, Newport. 3, Winwood and Hughes, Worcester. *Game Bantam.*—1, Mayo & Washbourne. 2, E. Payne. 3, E. C. Phillips. *Any other Variety.*—1, Wyndham & Ward, Salisbury (Crève-Cœur). 2, C. Homfray (Houdan).

PIGEONS.—*Carriers.*—1, J. C. Ord, Pimlico, London. 2 and *hc*, G. S. Hockey, Bristol. *c*, H. Yardley, Birmingham. *Pouters.*—1, H. Yardley. 2, Master C. W. S. Bulpin, Bridgwater. *hc*, H. Draycott. *Tumblers.*—1 and *hc*, Miss F. J. M. Bulpin. 2, H. Yardley. 3, J. Fielding, jun., Rochdale. *Fantails.*—1, W. H. Tomlinson, Newark-on-Trent. H. Draycott. *hc*, Miss F. J. M. Bulpin; J. E. Breward, Birmingham; W. H. Tomlinson. *c*, H. Yardley; Rev. W. S. Shaw, Bath. *Any other Variety.*—1, Master C. W. S. Bulpin. 2, H. Yardley. 3, H. Draycott. *hc*, T. A. Dean, Moreton-on-Lugg, Hereford (Nuns).

The Judge was Mr. E. Hutton, Pudsey, Leeds.

ASHFORD POULTRY SHOW.

THIS was held on the 13th and 14th inst. The following is the prize list:—

DORKINGS (Coloured).—1 and Cup, J. Smith, Petworth. 2, G. W. Greenhill, Ashford. 3, F. Kipping, Maidstone. *c*, E. Rice, Sandwich; Miss Pittock, Sellindge. *Chickens.*—1 and 2, E. Rice. 3, F. Parlett, Great Baddow. *hc*, R. Cheesman, jun., Westwell, Ashford. *c*, G. W. Greenhill; T. Perkins; R. Cheesman, jun.

DORKINGS (Silver-Grey).—1, Miss Hales. 2, J. B. Plumptre, Goodnestone. *Chickens.*—1 and 2, J. B. Plumptre. *hc*, F. Cheesman, Ashford. *c*, F. Cheesman; Miss M. Plumptre, Canterbury; Rev. T. E. Cato, Wye.

DORKINGS (White).—1, A. Cobb, Faversham.

DORKINGS (Any variety).—*Hens.*—1, Rev. T. E. Cato. *hc*, G. W. Greenhill. *c*, J. B. Plumptre. Extra, F. Parlett. *Cock.*—1, Miss Pittock. 2, F. Parlett. *hc*, F. Cheesman; G. W. Greenhill. *c*, J. B. Plumptre.

SPANISH.—1, Nichols & Howard, Camberwell. 2, W. Rossell, Ashford. *Chickens.*—1, Nichols & Howard. 2, F. James, Peckham. *hc*, R. West, Maidstone. *c*, J. B. Plumptre; W. J. Hammond, Ashford; C. F. Hore, Tunbridge. *Cock.*—1, R. West. *hc*, F. James. *c*, C. W. Hammond.

COCHIN-CHINA (Cinnamon or Buff).—1, Miss Hales, Canterbury. 2 and *c*, W. F. Harvey, Thruxted.

COCHIN-CHINA (Any other variety).—1, T. G. Ledger, Folkestone. 2, Miss Hales. *c*, J. H. Dawes, Moseley Hall, Birmingham.

BRAHMA POOTRA.—Cup and 1, — Herbert. 2 and 3, Miss Hales. *c*, W. F. Brook, Wye; E. C. Dering, Surrenden Deering; — Herbert; J. H. Cuff, London.

GAME (Black and Brown Red).—1, S. Matthew, Stowmarket. 2 and *c*, J. Jeken, Eltham. 3, W. F. Harvey. *hc*, R. Hall, Cambridge. *Chickens.*—1 and Cup, W. Adams, Ipswich. 2, S. Matthew. 3, R. Hall. *hc*, W. F. Harvey.

GAME (Any other variety).—1, S. Matthew (Duckwing). 2, F. Kipping (Duckwing). *Chickens.*—1, S. Matthew (Duckwing). 2, J. H. Dawes (Black). *hc*, E. Rice (Duckwing). *c*, J. Jeken. *Cock.*—1, J. Jeken. 2, J. H. Bayley, Ashford (Black Reds). *hc*, R. Hall; E. Rice (Black-breasted Red). *c*, T. G. Ledger.

HAMBURGH (Golden-spangled).—1, T. Penfold, Newhaven. 2, R. West.

HAMBURGH (Silver-spangled).—1, T. Penfold. 2, F. Elliott. *hc*, R. West. *c*, M. Dorman, Ashford.

HAMBURGH (Gold-pencilled).—1, C. Havers, Ingatestone. 2, R. West. *hc*, Usborne & Worger, Ashford. *c*, Miss Hales.

HAMBURGH (Silver-pencilled).—1, withheld. 2, R. Fowle, Wingham.

POLISH.—1, D. Mutton, Brighton (Black with white crest). 2, E. J.

Reeves (Gold). *hc*, G. W. Boothby, Louth. *c*, Miss Hales (Golden-spangled); G. W. Boothby; D. Mutton (Black with white crest).

Crève-Cœur.—1, Rev. H. H. Dombrain, Westwell Vicarage, Ashford. 2, T. G. Ledger. *hc*, W. Dring.

Houdan.—1, W. O. Quibell, Newark. 2 and 3, Hill & Co., Brighton. *hc*, G. Mills; W. O. Quibell, Newark; W. Dring; J. Norwood, Mersham. *c*, G. Mills; F. Elliott.

Bantams (Gold and Silver-laced).—1, Miss A. Hodson, North Petherton.

Bantams (Black, White, or any variety).—1, Miss E. J. N. Hawker, Tunbridge Wells. 2, D. Mutton. *hc*, J. Barnard, Staplehurst; J. H. Bayley. *c*, R. Fowler.

Game Bantams.—1, F. James. 2, J. B. Plumptre. 3, H. Dowsett. Pleshey.

Ducks (Aylesbury).—1 and *hc*, C. Havers. 2, W. Jacob, Shepherdswell. *c*, G. W. Greenhill; Miss Hales.

Ducks (Rouen).—1, C. S. Hardy, Canterbury. 2, W. Jacob. *hc*, W. F. Harvey; Lady F. Bushby, Kingston Hill; F. Parlett.

Geese.—2, Miss Hales. *hc*, D. Swaffer, Kingsnorth; Mrs. Powell. *Goslings*.—1, Miss Hales. 2, Mrs. Powell. *hc*, D. Swaffer; Miss Hales.

Turkeys.—1, Miss Hales. 2, J. Foord. *hc*, W. H. Mold, Bethersden. *Poults*.—1, T. Harvey. 2, W. B. Sharpe, Cranbrook. *hc*, T. Harvey; W. H. Mould; J. Foord, Ashford.

Any other Variety.—1, C. Ayers, Canterbury (Gnelder or Breda). 2, Hills & Co. (Gangesian). *hc*, Miss Hales (Silkies). *c*, G. Mills (La Fleche); F. Elliott, Dymchurch (Black Hamburgh).

Selling Class.—1, G. Mills, Woodville, Dover (La Flèche). 2, C. F. Hore (Brown Red Game). 3, R. Cheesman (Dorking). *hc*, J. B. Plumptre (Dorking); G. W. Greenhill (Dorking). *c*, Dr. Beet, Ashford (Houdans); J. B. Plumptre (Silver-Grey Dorkings); T. Perkins (Spanish and Houdans); W. P. Forth, Ashford (White Bantams); J. Rogers, Hastings (White and Black Cochins); Col. Deedes, Hythe (Grey Dorking).

Extra Local Prize (Houdan).—*Chicken*.—1, G. Mills.

Pigeons.—*Carriers* (Any colour).—1, W. Foster, Ripple House, Deal. 2, J. F. Jenks, Canterbury. *Tumblers*.—1, W. Igglesden. 2, F. Elgar, Sandwich. *Fantails*.—1, G. W. Greenhill. 2, F. Elgar. *hc*, A. A. Vander Meersch, Forest Hill; G. W. Greenhill. *Any other Variety*.—1, Lady F. Bushby (Blue Runts). 2, J. Bowes (Owls). 3, E. C. Dering (German Helmet). *hc*, W. Igglesden, Ashford (White Trumpeters).

KILMARNOCK POULTRY, PIGEON, AND CANARY SHOW.

Our friends in the north are certainly progressing. The fanciers are waking-up again with renewed and increased spirit, and as our exhibitions come round those who have been so long in retirement appear with the produce of their summer's labours, setting them on the tables of our shows to the surprise of their brethren, and the admiration of visitors.

Kilmarnock has taken a decided step in advance this year, and if ever a Committee had reason to be gratified by the successful termination of their work, it is that of the quiet and industrious manufacturing town of carpets and blue bonnets. Last year the Show was held in the Market Hall, behind the Corn Exchange, a very large square building, roofed with glass, and the Exhibition comprised 182 pens of poultry, 158 pens of Pigeons, and 127 cages of Canary birds. This year the Show was held on the 27th ult., and the entries increased to such an extent that the Committee had to engage not only the Hall, but the Corn Exchange as well, a large and elegant building communicating with the Hall by an easy flight of steps. The Market Hall was devoted to the poultry, of which 259 pens were exhibited; and the Exchange which was neatly arranged after the manner of the Glasgow Show, having pens of the same size and shape, contained 241 pens of Pigeons, with shelves against one wall on which were placed 202 cages of Canary birds. One healthy sign of this Show at once caught the eye—so far as we could observe there were only three empty pens in the whole Exhibition, and we could not but admire the conscientious care bestowed on the specimens sent for exhibition. They were not only accommodated with large and roomy pens, but systematically fed and watered, and a sufficient staff of police, besides the members of the Committee, kept a watch over the whole.

The extra prizes awarded at this Show, like those at the Johnstone Show, were something new—viz., timepieces, some in marble, others in gilt stands—next to money certainly one of the most useful as well as ornamental articles that could be given. The appreciation of these prizes was at once seen by the numerous entries for them.

Poultry.—*Spanish* was a very excellent class, the prize birds being remarkable for their combs and purity of face. Many elegant and promising birds stood in this class; the special prize being for the best cock or cockerel, was awarded to the second-prize pen, the cockerel contained therein being the best.

Dorkings.—The first-prize hen was the best bird in the class, and though the entries were not numerous, the birds as a whole were good. The third-prize pen contained birds of great promise, and they will, no doubt, take a higher place at another time. Of *Brahmas* or *Cochin-Chinas* there were some fair birds. The cock which gained the first prize and also the timepiece for the best cock in Classes 2, 3, and 4, seemed to us to be rather long in the limb. *Scotch Greys* were a very good class, but breeders should endeavour to produce birds with a deeper black and purer white than those which are now generally exhibited. Golden-spangled *Hamburghs* were remarkably good, and must have given the Judges considerable trouble. Pen 85, commended (W. A. Hyde), was very much admired, and had it not been for the faulty ear of the hen might have had a more honourable place. Golden-pencilled Hamburghs were also very good; the prize birds bid fair to hold their place at any show. Among Silver-spangled Hamburghs were some excellent birds. The first-prize cock, which gained also the timepiece for the best cock in Classes 7 and 8, was faultless, with the exception of having a rather heavy comb. The hen he was matched with we considered a little too dark. The third-prize hen was in marking almost perfect, and many other birds, had they been well matched, would have caused the Judges no little trouble. Silver-pencilled Hamburghs were also very good, the hens in some cases being of great merit. As a whole they were much admired by visitors. *Polands* constituted but a weak class; the first and second-prize pens were, however, very good. Polands being so constantly hoodwinked, and, therefore, so unable to take care of themselves, do not seem to be kept in any great numbers at the present day.

Of *Game* there was a fair class containing some fine birds but badly matched, a great drawback to exhibitors. The first-prize cock was a good and powerful bird, but hardly fine enough in the head. Many of the smaller birds were very elegant in form. *Game Bantams* were as usual the largest and best class in the Show, and the Judges had great difficulty in making their awards. The elegance of shape and grace of motion seemed to attract the lady visitors to this pretty class. Black Bantams with the exception of the prize birds were not quite so good as we have seen. Of Bantams, "Any other variety," there was a very pretty class; the variety of feather and shape afforded a complete contrast to all the other classes, and from the elevated and isolated position of the pens the class formed a pretty little show of itself.

Of Aylesbury *Ducks* indifferent birds were shown; a cross would be of great advantage to the exhibitors. Among Rouen Ducks the prize birds were as fine as we have seen at any show in the kingdom.

Pigeons.—We were not prepared for the sight presented to us by the extent of this department; both in numbers and quality it would have done credit to a city show. The Ponter pens were arranged opposite the entrance, and presented a most imposing line. Both in the old and young classes of Ponters there were birds of the most perfect form. In many cases the markings were almost perfect; as a rule the colours were good, Reds being the worst. The most fastidious fancier of Ponters might have stocked his loft with birds from this Show. An unusual appearance attracted us to a pen in the old class (Ponters any colour), containing a pair of splendid birds in high training. They were valued in the catalogue at £50. Worth the money? Well, but they were artificially coloured to the very eyes, and after all they would have held their position had the colour and "finish" been left with the vendors. This was not the only pen tampered with in this class; but for the present we abstain from publishing names, in the hope that some step will be taken on an early day which will put an end to this dishonest practice. We are sorry to say that in the second class, "Ponters bred 1869," several birds had also been tampered with, and some of the pens contained old birds. A placard was posted in the Hall, which read as follows: "Young Ponters. Many birds in this class disqualified as old, also for being tampered with." Space does not allow us to describe as we could desire the numerous specimens of merit exhibited. The fanciers in the west of Scotland are advancing in Carriers; the class for these was not inferior to that for the Ponters, and the principal part were entered by Kilmarnock fanciers. The Blacks were certainly the best; some single birds in Duns very fine, but, unfortunately, several pairs were ill-matched. The young class was the best we have ever seen at any local Scotch show. We were rather doubtful that the cock in the first-prize pen (Dun) was a last year's bird. The second and third-prize pens, shown by Mr. White, Paisley, were beautiful; both black heads and necks of exquisite form, and the fine, bold, arrow-shaped bills are sure to become the perfect "box" as they become older. There was a good class of Short-faced Tumblers, Mr. Fielding carrying off the first prize, and Mr. Mair, Kilmarnock, the second; but some of the pairs were not in very good order. Common Tumblers were an excellent class. We were glad to see the prize money for this class the same as for the others, as it encourages young fanciers to prosecute this pleasant and instructive pastime. Almost every variety in colour and marking was here exhibited. Among the Fantails stood some rare specimens. The first-prize birds had saddled tails, and were large, and their motion perfect. One bird, shown by Mr. Kerr, Kilmarnock, was a gem—pure white—but it had a miserable mate. Jacobins were a poor class. We are rather fastidious as to this bird, and seldom see the elegant Swallow-shaped bird of olden times. Barbs were a very good class; the Blacks by far the best. Of Trumpeters several superior pairs were shown; all were perfect in the feet, some wanting in rose and crest. This class of birds is decidedly improving. There was a good deal of dressing among the Nuns, and several birds were disqualified. The "Any other variety" class contained a diversity of beautiful Pigeons, all in fine order. Without doubt, the most interesting were the little white foreign Owls, shown by Mr. Fielding, with their sweet little chubby faces. The same birds appeared formerly at another show, and an old and ardent fancier, on looking at them then, said "They are just like things made for kissing." By-the-by, he was, is, and is likely to remain, a bachelor.

The Canary department was a most interesting one; the birds all so tame, clean, and in perfect feather. We think it a pity that the Glasgow fancy Canary is not better known in the south; the small bills and beautifully rounded heads, narrow shoulders, and long tapering tails, all forming one perfect curve—moving on long, neatly-set limbs, and displaying a grace of form and motion which could not

have been attained but by dint of long and careful breeding. The Mules bred from this breed of Canaries were also very handsome in shape. There were, however, two classes of Canaries which we missed, and if they were introduced into our northern shows would give, we feel sure, additional interest both to fanciers and visitors; we refer to the Belgians and Lizards. The former have been much used for the improving of other breeds, and are, we think, well worthy of cultivation; the latter, so beautiful in colours and markings, so hardy and easily managed, and forming such a contrast to other breeds, would come in as a further attraction. We wish our Kilmarnock friends all success in time coming, and would recommend them, if possible, to allow the Judges a full day for their work, and the public the day following to enjoy the exhibition.

☞ We published a list of the awards last week.

RABBITS AND THEIR VARIETIES.

We have heard much respecting exhibited Rabbits of late, and many things have been said about judges, committees, and the officers in connection with exhibitions generally. All this will tend to a satisfactory result, I have no doubt, and so all will be pleased. I have often thought of a method of judging Rabbits that might be more in accordance with a correct conclusion as to their merits, regardless of any reference to the catalogue. All the judge requires, in my opinion, is the schedule of prizes, and for what they are offered—length of ear, heaviest weight, &c.; and with that knowledge only he may commence his duties, and in total ignorance of the owners' names. There could then be no remark that the judge had given the prize to the owner instead of the Rabbit, as is too often heard, especially when the judge goes the round of the pens with catalogue in hand, for in it there is no information that he requires. The specimens are there, and the only question with him is which is the best in its class.

The Himalayan, or, as the word implies, a "palace of snow"—this "furry friend," as some enthusiastic admirer of the Rabbit family is pleased to designate his pet, is found in great numbers on the chain of mountains which extend 1800 miles from the Burrampooter, in Assam, to the western extremity of the Hindoo-Koosh, in Cabul, and it is asserted that this is a sacrificial animal with the Chinese, who annually sacrifice thirty thousands of them, with prayers that their crops may be as prolific as Rabbits. Hence we at times find them spoken of as the Chinese Rabbit, also as the Black-nosed Rabbit. They are found and reared on the Continent; and I have seen them labelled at exhibitions as Antwerp Rabbits, and many are imported into this country from that city. Egyptian Smut is a name also applied to this neat specimen, and if variety of names adds to the intrinsic value or interest of this little animal, the Himalayan is highly favoured. Perhaps no specimen presents a more decided appearance than it does, or has the points of excellence more evident to a judge. The darker the extremities are the more valuable, and a greater certainty of a prize irrespective of the size; yet I have seen very imperfectly marked specimens at shows carry off prizes because of their corporeal magnitude, yet with very grey extremities.

I may here remark what all keen observers of this variety may also have noticed: that at times the extremities, especially the feet, undergo a great change, and for three months at a time present anything but the deep dark shade so desirable. This change occurs when the moult is in progress, and many an anxious exhibitor has been disappointed at finding his probable prize-winner looking anything but black enough in the face to come off with honours.

I would caution all owners of this variety to avoid chloride of lime as a disinfectant in the hutch, it being too strong, and producing a slight change in the shade of the feet. I have tried many experiments in this particular. This variety is by no means large—say 6 or 7 lbs., if of the pure kind. I have obtained very large specimens up to 9 lbs. by crossing with a large Polish Rabbit, but some five or six generations must elapse before the true dark and glossy nose and other extremities are fully presented. I would advise all rearers of this variety to keep to the pure specimen as the most certain to afford satisfactory results.

In the marking no white foot should be seen; yet it so happens that half the foot, or at times the entire foot, is almost white, which is a decided objection, and must always exclude the animal from any show, although in other respects a fine specimen.

The Himalayan is in my opinion one of the most decided varieties we have, if not the most so, as no deviation from the dark shade of the extremities can be allowed, and the judge makes this dark shade the real "point" of merit; and no Rabbit less than six months old ought to be exhibited, as its true marking is not perfect earlier, or so seen in many instances. This is not a variety to experiment with to any advantage, and when the extremities are grey, especially the ears and nose, be assured that some ancestor not many generations back was pure white, or nearly so.

The Himalayan is of a kind yet spirited disposition, not, perhaps quite so tame with the same amount of petting as the Dutch or Angora, yet a very interesting variety. I have no doubt but many of my Rabbit-loving readers may have noticed with what attention one of this variety, especially a doe, will look at one and move its head about as it does, and one is much interested by the appearance of its fully opened and beautiful pink eye, which seems to watch every motion. The doe is an excellent mother, and manifests great care for her young, generally from six to ten at a litter. The fur is valuable, and at times designated mock ermine; it is finer and more lustrous than that of the common white Rabbit, and on the Continent, more particularly, it is valued by the furriers. This specimen and the Silver-Grey undergo, perhaps, the greatest change from birth to maturity of any variety, the Himalayan when leaving the nest being quite white to all appearance, except the extremities, which only an accustomed observer could detect as of a slightly darker shade when a month old, and the Silver-Grey quite black when of the same age.

The Himalayan is at times, like other varieties from warmer climates than our own, liable to a gathering of scurf in the ear, or "ear gum," which at times, if not attended to, proves fatal. I well remember losing one of my first specimens, which was brought by a friend from Canton, from this cause. The most effectual remedy is to sprinkle in the ear a little flowers of sulphur, after first loosening the scurf with, say, a feather, avoiding pain as much as possible, as the ear is very sore at times; a cure will be effected in a week. I hope ere long to say a few words about the Silver-Grey.—Charles Rayson, *York Mount, Prestwich.*

DR. PREUSS ON FOUL BROOD AND INFECTION.

In compliance with the request of the Baroness von Berlepsch, I have now the pleasure of redeeming the promise which I made in "our Journal" of the 12th August, by presenting to its readers in an English dress a full elucidation of the views entertained by Dr. Preuse, of Dirschau. The Baroness in writing to me characterised it as an "important article," and in this opinion I fully concur. It is, indeed, a most important paper, interesting and suggestive to the last degree, and especially to the medical profession, since it briefly but clearly describes much of what has been effected by the profound thinkers and untiring investigators of Germany towards solving one of the most momentous, and hitherto one of the most inscrutable problems to which the human mind could apply itself.—A Devonshire Bee-keeper.

ON THE SMALLEST MICROSCOPICAL FUNGI, ESPECIALLY THE FOUL-BROOD FUNGUS.

(*A Contribution to the Theory of Foul Brood, its Nature, Cause, Prevention, and Cure.*)

In the German Bee Journal of the 1st October, 1868*, I communicated the results of the microscopical examination of foul brood, and declared that a fungus belonging to the species Cryptococcus was present therein. I also stated, and laid great stress upon, the exactness with which such investigations should be made; described how we placed only a particle of foul brood no larger than a grain of sand on a glass slide, diluted this with a minute drop of freshly-distilled water the size of a millet seed, and covered the whole with a thin glass about the substance of a poppy leaf, so as to bring it under the microscope, which latter it was absolutely necessary should be of a very superior character.

Should any of your correspondents state that they have looked for the foul-brood fungus with a good magnifier, and have not found it, the result may readily be explained by the fact that small microscopes, which are sufficient for the investigation of Trichinæ, are perfectly useless for the discovery of Cryptococci. The size of Trichinæ, as compared with the foul-brood fungus, bears the same proportion as that of a large eel to a millet seed, and every expert can detect the former with the

* *Vide* Journal of Horticulture of 22nd October, 1868.

naked eye as soon as it is dissected out and placed on a glass slide. The smallest instrument which is serviceable for the observation of foul-brood fungus is the medium-sized microscope, manufactured by Schieck, which has a magnifying power of 150 diameters*. Excellent instruments are also supplied by Merz, Zeis, Hartnach, and others, in Munich.

It has already been stated that the Cryptococcus is round, and that it has a diameter of 0·002 millimètre (1-1095th of a line). After these observations had been published, I found during the autumn of last year that many foul-broody cells contained also numerous much more minute bodies, which, under the many-thousandfold magnifying power at which Cryptococcus appears of a globular form, assumed the same shape, and were identical in character.† Their diameter may be stated at 0·004 millimètre (1-5500 of a line). It is this form that Hallier has denominated the Micrococcus, seed-cell, or seed-leaven. I have sent pieces of foul-broody comb to Dr. Bail, Director of the Dantzic Naturalist's Society, so celebrated as a microscopist, and especially for his scientific works on mycology, and he has satisfied himself of the existence therein of numberless specimens of Micrococcus. These fungoid forms have also been shown by me to the most distinguished bee-keepers in this district—Wannow, of Gütland; Lohse, of Stüblau, and others. In the annexed engraving the small bodies *a* represent Micrococcus, and *b* the Cryptococcus of foul brood.

Fig. 1.

The science of mycology has been brought to great perfection by the careful investigations of Pasteur, Kloh, Bail, Hoffman, and others, and especially by the works of Professor Hallier, of Jena. Hallier's "Phenomena of Fermentation; an Investigation into Fermentation, Putrefaction, and Decay," Leipzig, 1867: his "Vegetable Parasites of the Human Body," Leipzig, 1866: "The Cholera Contagion: Mycological Investigations, addressed to Physicians and Naturalists," Leipzig, 1867: and finally, "Parasitological Researches; referring Measles, Famine-fever, Typhus, Small-pox, Cow-pox, Variola in Sheep, &c., to Vegetable Organisms," Leipzig, 1868—are especially recommended to those who wish to make themselves masters of the subject.

We sometimes find this formerly unnoticed organism play a friendly and beneficent part in nature, as, for example, when it becomes the medium of fermentation; but far more often does the minutest form of Micrococcus spread devastation and death among plants, animals, and men. Who, before the invention of the microscope, could have believed that the actual growth of mildew—the lowest form of vegetation—could be made visible to him! The microscope has shown, moreover, that this is the highest degree of development of still lower forms; that besides the stalks there are spores, which are small bulbs scarcely visible to the naked eye; and that each spore when greatly magnified presents itself as a capsule, which when it bursts throws off thousands of sporules, which are capable of motion if brought into contact with fluids. These sporules are the Micrococcus, which, therefore, correspond to the seeds of higher organisms. As there are many kinds of mildew and fungus, so also the number of varieties of Micrococcus is just as great. These are, however, so excessively minute that the eye fails to distinguish one from another, even when assisted by the most powerful microscope; only by what proceeds from them, and which at last assimilates itself to the parent stock, can the difference be detected.

The Micrococcus belongs to the uni-cells. With these is reached the boundary line of creation, within which lies the whole secret of what we call vegetable life. We need only recite one great fact, which forms an immeasurable gulf between this type and the inorganic: *It is capable of multiplying itself.* A cell consists of a cortex and a kernel, which in the Micrococcus are in close contact with each other. By means of its peculiar power, which we call vital force, it exercises an attraction upon the surrounding substance, which serves it as food. *Cortex and kernel enlarge, both divide, and thus one cell becomes two, by each of which the same process is repeated. The Micrococcus can now either increase ad infinitum by dividing itself in two in this manner without assuming a higher type, and remaining unchanged for years may spread itself over vast tracts of country* (upon which subject we shall have more to say farther on), *or it may develope into higher forms.*

The next higher form of development is this: That the Micrococcus forms a hollow space (vacuole) between the kernel and cortex, and that the minute dot-like body changes into a little bulb, in which we can perceive a kernel. This form represents Cryptococcus (*fig.* 1, *b*). It multiplies itself, precisely like the Micrococcus, by division. It forms on one part of the cell a bud-like elevation, which rapidly increases, and ultimately separates itself and forms a new cell (*fig.* 1, *c*), after which the same process is continued.

Both Micrococcus and Cryptococcus are comprehended under the name of fermentive fungus.

The two kinds of increase which have been mentioned take place without the admission of air. Their essential requisites are a temperature between the boiling and the freezing points, moisture, and nitrogen. The development of Cryptococcus flourishes under fewer conditions than that of Micrococcus, if only it be surrounded by strong nitrogenous elements.

We now come to a still farther development of the lower fungoid forms.

In Micrococcus and Cryptococcus the cells multiply with extreme rapidity. Under certain conditions, especially with but slight access of air, such as occurs under the bark of trees and beneath the scarf-skin of animals, the cells remain hanging together, and we obtain the form which we call Oïdium, and which we see beginning to show itself at *c*, *fig.* 2, and completely formed in *fig.* 3.

Fig. 2.

Fig. 3.

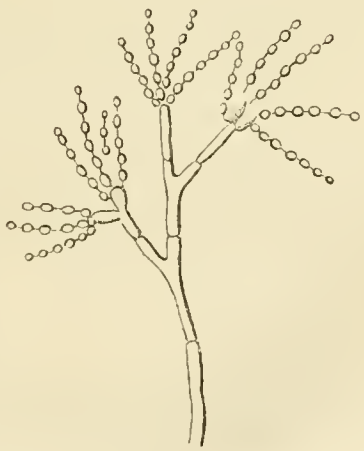


Fig. 4.

Fig. 5.

With free access of air we at last witness the formation of the perfect mildew (*fig.* 4); rapid development is already going on at the ends of the cells, where little spores, shells whose contents are innumerable granules of Micrococcus, form themselves (*fig.* 5). Thus each fungus runs through four principal stages—Micrococcus, Cryptococcus, Oïdium, and Mildew.*

*F. W. Schieck & Son, 14, Hallische Street, Berlin, supply this microscope for 100 thalers (about £15). The largest manufactured, with a magnifying power of 2500 diameters, costs 200 thalers. The smallest pocket microscope, magnifying 200 times, and sufficient for observing Trichinæ, 10 thalers.

† We often find similar but larger ellipsoidal corpuscles with the Cryptococcus. These are the organic cells of the larva, which may be seen by the thousand if we crush the egg of the bee and place it under the microscope.

* I purposely omit the intermediate stages, such as Arthrococcus, Torula Hormiscium, Leptotrix, &c., which occur during acetous fermentation.

The foregoing figures 2, 3, 4, and 5, show the development of the common brush-mildew, Penicillium crustaceum; and we shall again return to the distinctive character and appearance of the simpler forms of this mildew.—Dr. Preuss, *Sanitätsrath.*

(To be continued.)

BEE-HUNTING.

The custom of bee-hunting used to be, and is yet to some extent, a favourite pastime among the inhabitants of the Green Mountains. To hunt successfully requires a thorough knowledge of the bee and all its habits; and, therefore, like any other game, those who love the sport pride themselves upon their proficiency. The hunter starts out armed with a small box with a sliding cover, a card of honeycomb, and a small bottle of honey, molasses, or something suited to the taste of the bee. When near the locality of wild bees, he fills the comb with the honey from the bottle, places it in the bottom of the box, and hunts for a bee upon a flower, which, when found, he brushes into the box, at the same time closing the lid. The prisoner will buzz for a while, and then goes to filling his sack from the honey in the bottom of the box. The hunter then places the box in a favourable position for seeing it, and slides back the cover. Having "filled," as the hunter says, the bee flies straight to his tree, and returns to fill again, bringing others with him. Oftentimes these workers increase so rapidly that a steady stream will be seen going to and from the box, which can easily be followed to the tree at once. Frequently large deposits of honey are found in this way, which the little workers show as much bravery in defending as industry in gathering.

There lived in the town of R—— an eccentric character, "Uncle Joe," whose particular pride was in being thought a master of this sport. Once, on the approach of the hunting season, he went out, as usual, armed with bee-box and honey-bottle, and soon had a worker caught, but somehow he showed an utter indifference to Joe's honey. He let him go and caught another, who behaved in like manner; and so he spent the day, every bee refusing his free lunch, until Joe really thought the bees all crazy or himself dreaming, for surely he never knew the like before. In utter amazement he gave up the job, and went home. Meeting his "better half" at the door he gave her his traps to put away, told her his luck, which he was disposed to consider an ill omen, and waited for her to speak, which she soon did. Holding the bottle up before her, she exclaimed, with a twinkle in both eyes, "Well, well, Joe, if you havn't gone and taken my castor-oil to line bees with!" Joe looked, and seeing his honey-bottle untouched, saw the joke and wilted, for he knew that he would never hear the last of it, as one of his neighbours' boys happened to be present.

That evening as Joe, rather happy from the effects of something taken to relieve his chagrin, strolled into the village hotel, where a few of his neighbours were congregated, one who never let a chance slip to give Joe a hit, and who rarely got the better of him, related Joe's experiment, and turning to him with an air of having at last got his enemy in a tight place, asked Joe if he hadn't better treat on that? Joe steadied himself by a chair, and when the laugh had subsided so as to be heard, said with a very knowing look, "Gentlemen, there is no mistake about that. I wasn't trying to hunt those bees; I was only doctoring them. Bees always have to be physicked before they will work well!" This brought the house down, and although Joe did not stand the treat, some one did, and he had to be helped home.—(*Harper's (American) Magazine.*)

OUR LETTER BOX.

Hamburgh Fowls, Comparative Hardiness of (*J.*).—Most people consider there is no difference but colour between the Golden and Silver-pencilled. We, however, always fancy the former are the stronger. We are sure they do better with us. We consider Partridge Cochins much more fitted for confinement than either of them. Barley meal or ground oats make an excellent change with barley, and it may be profitably varied by substituting two or three times per week a meal of Indian corn.

Black-legged Bantam (*Poplar*).—Your description of the Bantam hen is not that of a Brown Red Game. Her black plumage should be striped with yellow on the hackle. You must put her to a Brown Red cock, and though she lacks part of the plumage, she will throw some good chickens. Breeding from a Black hen, you should choose a cock with plenty of colour.

Lice on a Duck's Head (*Inquirer*).—We do not know the properties of Keating's insect-destroying powder. We know that flowers of sulphur will kill lice. Still more efficient is camphor. We cannot say whether the coloured application will stain the feathers. If you are sure the parasites are confined to the Duck's head, they can be easily destroyed. Having ascertained their locality exactly, form a ring just below it with oil, laid on thickly down to the skin, and then powder the head with powdered camphor.

Comb of Spanish Cockerel Lopping (*J. T. T. and T. Sims*).—Spanish cocks' combs lop over from two causes; one, over-feeding on stimulating food, the other from lack of condition. It is a rare occurrence for a comb that has once fallen over to regain its original position. Good barley is good food; Indian corn is good for a change; we are not friendly to potatoes, and when we have seen them mixed with meal, the meal was almost imperceptible. A few peas do good to Spanish at times. No grass will grow well in a yard where the sun never penetrates, but the sweet-scented vernal grass, Anthoxanthum odoratum might. We have tried to grow grass in London, but it always degenerated into moss and spongy fungus, that seemed to have no property but that of holding water. Your best plan would be to cover your yard with road grit or other loose, dry stuff, and then to contract with some man in the country to bring you good quantities of growing grass, dug up with plenty of soil.

Points of Dark Brahmas (*Idem*).—It is not so much the heavy weight as the bright condition of the birds, that is necessary for success at a show. Although scales are sometimes used, yet, as a rule, competent judges eschew them. Feed on ground oats, good barley, and barley meal, and in very wet cold weather give them some bread and ale.

Fowls for Egg-producing (*Two-year-old Subscriber*).—We have always considered the Spangled stronger birds than the Pencilled. There is no difference but colour between Golden and Silver.

Age of Birds at the Birmingham Show (*Scrutator*).—You are in error; the birds were aged, as printed at the time of entry some months since. If you had ever acted as judge at a large show, you would know too much on the subject to allow you to think as you do. So far from overlooking defects, the judges are too happy to discover them to enable them to lessen the number of the competitors. The awards are given in by one judge, who is checked by the other two. They are copied into properly-ruled books by four secretaries. If any mistake occur, it is in spite of seven persons whose interest it is to prevent it.

Incubator (*A Reader of the P. C.*).—Do not employ it. Keep a few Cochin-China hens. They are often broody, and are good mothers. They may be with your Crève-Cœurs.

Houdan Cock at Birmingham.—The third-prize Houdan cock was priced in the catalogue £2 10*s.*, consequently could not have been sold for a less sum at auction, and we are informed that the actual price he was sold at was £4 10*s.*, being £2 more than the price put upon him.

Will Lettuces Kill Pigeons? (*A Reader of the Journal*).—Lettuces are slightly narcotic, but we should not think that any Pigeon would eat a sufficient quantity of them to cause death. If Pigeons were absolutely kept from all other food such a result might possibly happen, but as they are by nature granivorous birds, they would only take a little lettuce, and turn again to the seed-hopper.

Address.—"*C. R.*" would be obliged by the address of Mr. F. Schröder, formerly of Rickmansworth.

Tortoise in Winter (*L. B.*).—It hybernates—that is, remains torpid during the winter, and requires no feeding.

Associating Hens of Different Varieties (*H. N. A.*).—We have no further information than that contained in the communications we have published. Whether such association causes a hen of one variety to produce chickens partaking of the characteristics of other hens associated, must be determined by more facts and more certain experiments than are yet recorded. You ask our opinion, and our opinion is that such association has no influence over the form or plumage of the chickens. You will much oblige us by informing us if the chickens hereafter produced from your Cochin-China hens at all partake, or do not partake, of the plumage of the Grey Dorking hens with which those Cochin-China hens are associated. We do not think that they will.

Cleaning and Feeding Canaries (*C. G. S.*).—"Have ready a good fire (and keep the kettle boiling), two basins, some very soft cloths—old 'fluffy' half-worn-out soft towels are best—a piece of common soap, and a jug of cold water. Hold the bird in the palm of the left hand, either by passing the legs between the second and third fingers, or by placing the thumb lightly across the back of the neck; partly fill one basin with warm water, and holding the bird in a favourable position begin with the tail, and with a soft rag and plenty of soap, thoroughly cleanse it: then extend the wings, and do the same to them; next the back and neck, taking care to use abundance of soap, not too much scrubbing, but a moderate pressure, always rubbing in a direction from the head to the tail. Then turn the subject on his back, and wash the breast, and finally the head and the remaining portion of the neck. Have the second basin filled with luke-warm water, and rinse the bird thoroughly. Be sure not to leave the least trace of soap, rather use two waters than rinse with that which is not quite clean. By this time the bird will be quite exhausted. There will be no fear of his attempting to fly; in fact, your chief anxiety will be whether he will ever fly again! Quickly place him in one of the soft cloths, which must previously be hung close to the fire to heat them, and as soon as possible remove all superfluous moisture by gently patting the bird, and moving it from any damp place in the towel to a drier and warmer spot, all the while sitting before the fire and holding the bird to it as near as turned-up shirt-sleeves will admit of with comfort. Dry the tail and wings as much as possible, passing every feather singly through the towel very carefully, and then, frequently changing the cloth, with a view to keeping it as warm and dry as possible, gently rub the plumage till dry. If the washing and handling seem to exhaust the bird too much, give him a rest by wrapping him up in a warm towel and placing him in the fender while you operate on a second. It is easy to have two or three in hand at the same time. I would advise you to experiment on a bird you do not value much, lest it should die under the operation. A written description is very well in its way, but you will learn more from seeing the operation performed once by an experienced hand than by any written instructions. I should have said that, when dry, put the bird in his cage, and set it in a warm spot near the fire away from draughts, and when he has plumed himself, if his appearance satisfy you, have a washing day and go through the stock. If he should die in your hands, do not wash any more, unless you have some rubbish you do not value, in which case it might be well to offer up a few on the altar of practice. Feed on the usual diet, with now and then a little hard-boiled egg.—W. A. Blaeston."

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 23—29, 1869.	Average Temperature near London. Day.	Night.	Mean.	Rain in last 42 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
23	Th		43.9	31.8	37.9	20	6 af 8	52 af 3	11 af 9	9af 11	20	0 33	357
24	F		43.8	31.2	37.5	17	7 8	52 3	28 10	37 11	21	0 4	358
25	S	Christmas Day.	43.3	29.2	36.2	9	7 8	53 3	46 11	after.	22	before	359
26	Sun	1 Sunday after Christmas.	43.0	31.2	37.1	15	7 8	53 3	morn.	25 0	(	0 56	360
27	M	St. John's Day.	42.9	29.6	36.3	14	8 8	54 3	4 1	49 0	24	1 26	361
28	Tu	Innocents.	42.4	29.4	35.9	12	8 8	55 3	24 2	15 1	25	1 55	362
29	W		43.5	33.2	38.4	19	9 8	56 3	44 3	41 1	26	2 25	363

From observations taken near London during the last forty-two years, the average day temperature of the week is 43.3°; and its night temperature 30.8°. The greatest heat was 58°, on the 25th, 1827; and the lowest cold 1° below zero, on the 28th, 1860. The greatest fall of rain was 1.13 inch.

PINE APPLE CULTURE.

THERE are few persons, I should think, connected with gardening who do not know that the cultivation of the Pine Apple has not of late years increased in proportion to that of other kinds of fruits, nor even in proportion to the importance of the fruit and the demand for it at the dessert. My experience in Pine-growing is limited compared with that of many growers, but I believe the system in which I was instructed was that in general practice, and which, I was told, had been maintained with much exactness, and practised with great success, since the days of Speechley and others in the early part of the present century; nevertheless in this system I saw several things which I considered imperfections, and my opinion subsequent experience has confirmed. Likewise, I believe, those errors in culture have prevented in no small degree the more extensive cultivation of the Pine Apple

In offering a few remarks and suggestions as to the improvement and development of the culture of this esteemed fruit, I do so with a wish to be informed if my reasonings do not agree with the experience of our great growers, and if so, I may aid in obtaining for the Pine Apple the share of public notice its merits as a dessert fruit deserve.

Dispensing with much of the details of the treatment of this plant, I will at once proceed to discuss the merits or otherwise of growing large plants, which appear to have been the rage for many years. I must confess that the small fruit which, with very few exceptions, they generally produced greatly surprised and disappointed me, especially as it was often to be seen in the succession pit that a medium-sized sturdy plant yielded the largest and handsomest fruit, also several months sooner, and of course with less trouble and expense. The enormous crowns which the fruit of these large plants carried gave pretty conclusive evidence that the plants had been considerably overgrown; here, then, appeared to be an error in the treatment, and I have since seen the same results arise at other places; therefore, except in special cases when a few large fruit are in demand, I have yet to be convinced of the propriety of growing such large plants, especially as in most instances the time taken to grow and fruit a plant of large dimensions extends to years. Again, considering the atmospheric treatment necessary to the growth of such large specimens, and the amount of shading generally resorted to, I very much question if the flavour of the fruit is at all times first-class, for I believe too much shade favours the production of an abundance of juice at the expense of flavour. Another very common error is committed in the nursing pit. Here the unrooted crown or sucker often receives the treatment proper for a rooted plant—that is, too much encouragement to make foliage before sufficient roots are formed. Such treatment, if maintained throughout the growth of the plant, produces a shapeless ricketty subject, and increases the chances of overpotting and other evils. In my opinion that which would be most favourable to a more general cultivation of the Pine Apple, is the establishment of a cultural system that would produce a sturdy well-developed plant capable of bearing a fair-sized fruit fit for table within a more reasonable time. Such a system would be less expensive and more remunerative. Why should not this be done? Judging from my own experience and that made known to us by several expert cultivators, I can perceive no great difficulty to overcome. I have found the Pine capable of enduring a greater amount of rough treatment than most cultivators give it credit for, and at certain times with positive advantage instead of injury.

In the year before last I grew a dozen plants for the purpose of experiment; the sorts were one Providence, one Black Jamaica, and the rest Queens; some from crowns, and some from suckers. Not having the usual conveniences for Pine Apples, the plants were shifted about from place to place regardless of their supposed requirements, excepting that they were always placed in a moderate bottom heat, and kept near the glass until they had become dwarf sturdy plants. No notice was taken of a little sun shining on them for days together. The foliage was broad, and close down on the pot, and when the plants were about 2 feet high and as much through, I determined to fruit them; they were, therefore, taken from their growing place, and set on the stage of an intermediate house with all the sun shining upon them, but plenty of air. They remained there a fortnight, and during that time I had a small pit filled with tan, and when the tan became moderately warm the Pines were plunged into it. They were kept warmer at the top than before, and very soon every one of them showed fruit. The atmosphere was always kept dry, especially in the flowering period, and they had sun enough to render their foliage quite brown, and always plenty of air, but very little water at any time. With the exception of the Providence and Black Jamaica, all ripened their fruit in twelve months, and three of them weighed 9½ lbs.

I am aware that there is nothing extraordinary in the above experiment, or more than others have accomplished, but I state it to show what results may be achieved with a plant that has for many years been cultivated with such tender care; and if I were called upon to produce a quantity of this fruit annually, I should certainly have recourse to something like the same sort of treatment.

I have for a long time thought that the Pine has been cultivated with too much care at certain stages of its growth, and that the old system which has been adhered to with such pertinacity for so many years has been far too expensive for many to embark in Pine cultivation; no doubt, also, the large annual importation of foreign fruit of such good flavour has done much to check the cultivation of home-grown fruit. Those, however, who have the idea of an improved system of cultivation will do well to remember that there is the foreign fruit to compete with, and in point of flavour we can successfully do so; therefore no treatment, however good, will be

worthy of adoption if it in the least deteriorate this important quality.—Thomas Record.

FORCING PLANTS.—No. 6.

Convallaria majalis (Lily of the Valley).—This old favourite is in most places greatly in demand both for decorative purposes and cut flowers. It may be forced in pots, pans, boxes, and in a variety of ways, but for decorative purposes pots or pans are most suitable; whilst for lifting when in bloom for filling vases, along with other plants, it is best forced in narrow shallow boxes.

The plants most suitable are those which have been grown in beds in the open ground for three years, in the first place planted about 6 inches apart in rows 1 foot apart, each cluster having from three to half a dozen crowns. These beds are best made in November, a rich, sandy, fibrous loam being most suitable. The situation should be shaded, but not by trees, the shade of a wall being ample. A north, north-west, or north-east border is the best. The ground should be deeply dug, mixing with it some leaf soil, but no manure. In spring stir the surface lightly, just when the leaves are pushing, and top-dress with an inch thick of light rich compost; rotten leaves, old cow dung, and sandy fibrous loam in equal parts make a very good top-dressing. This may be applied every spring, nothing further being required than keeping them clear of weeds and watering abundantly in dry weather. By the third year they will be fine clumps, each as large as they need be for a pot, and many sufficient to fill a tolerably large pan, whilst the smallest will be suitable for boxes, to be transferred to vases, &c., when in flower.

For blooming in December the roots ought to be potted early in November, or if required to flower early in December they would be better, and indeed ought to be, potted at the end of October. In potting, good drainage is required for the pots or pans, as the plants need very liberal supplies of water, also a light sandy soil, and pots sufficiently large to hold the roots but no more. After potting give a gentle watering, and set the pots on a hard floor in a house with a temperature from fire heat of about 45°. If the floor be moist, all the better, and a position under the stage, if not much liable to drip, will do as well as any other. Cover with cocoa-nut refuse over the pots to the extent of 4 or 6 inches, if it is desired to have flowers with long stalks, and they will not require any further attention until the leaves are appearing through the refuse; then remove them, and you will find the flower stems little short of the length of the leaves, and the flower buds only need bringing out. To do this place the pots in a light airy situation about 1 foot from the glass, shading from 10 A.M. to 3 P.M. for about a week if the weather be bright, but if it is dull the shading will not be necessary. In a few days the foliage, acted upon by the light, will become green, and the flowers will expand on a good stalk, and be anything but like those forced from the first in light, with the flowers on dumpy stems and smothered by the foliage. A temperature of from 45° to 50°, and not exceeding 55° from fire heat, is sufficient. Five to six weeks are needed to have the plants in bloom, so that fresh lots of plants should be introduced at fortnightly intervals to keep up a good succession of bloom. For covering the pots sawdust, spent hops, or tan will answer, but cocoa-nut fibre is best. Inverted pots, however, answer nearly as well as covering the pots with cocoa-nut fibre if kept on until the spikes are 5 or 6 inches high, and then removed. Up to that time a shady position will do, but after the removal of the inverted pot the pots should be placed near the glass, shading for a few hours in the middle of the day if the weather be bright, but only for a few days. As the pots are not plunged, they will lose moisture by evaporation, therefore water must be supplied to the plants as required; after growth commences they must not on any account be allowed to become dry. The water used should be of the same temperature as that of the house—a few degrees higher rather than less.

If the plants are to be removed in flower to vases, baskets, &c., and in small patches or individual plants, I select those of the required size singly, or in twos, threes, or any number up to half a dozen. Every crown should be thick, plump, and round, it being of little use wasting time and room with those which are long, thin, and sharp-pointed, as they will not flower, or very weakly. These pieces should have as much root and soil as possible preserved along with them, and the root portion should be neatly wrapped in moss, adding soil if there be but little adhering to the roots. To keep the plants distinct, and to permit of their being transferred when in bloom with as little injury as practicable, secure the moss with matting, but not very tightly. Place them in boxes or pans closely together, and fill in the interstices with fine soil; or cocoa-nut fibre refuse will answer quite as well. They should be placed so deeply as to admit of an inch-covering of moss, which will tend to preserve a more uniform degree of moisture, and should be covered with an inverted box or pan, stopping up the holes, if any, to keep all dark. A good watering ought to be given before covering with the moss. The boxes or pans should be placed on a gentle hotbed in a house with a temperature not exceeding 50° from fire heat, but 45° will be better for a period of two or three weeks at the commencement. The soil must be kept moist, and tepid water only used. When the flower stems are from 4 to 6 inches high remove the inverted boxes or pans, and place the pots near the light; the plants will come into fine bloom in a few days, and as each root is enveloped in moss they may be transferred to vases or wherever wanted.

By either of the above plans these desirable flowers may be obtained at Christmas, or earlier, as well as throughout the winter. Those flowered early will be of little value afterwards; but those not flowering before February or March, may, after flowering, be hardened-off in a frame, and be planted-out when danger from frost is past; but a better plan is to keep them turned out in a shady border, after hardening-off as above during the summer, and in November take them up, shake away most of the old soil, and plant in bunches in a bed in rows as mentioned at the commencement of this article, top-dressing in spring, and watering in dry weather in summer. In three years they will be fine bunches fit for any purpose.

Spiræa japonica is a hardy deciduous herbaceous plant, very fine for forcing. The foliage is elegant, and bright dark green. In general outline it very much resembles the pretty Fern Anemidictyon phyllitidis, but is more dwarf and branched, and the flower stem is erect, and bears a profusion of small white flowers, very pretty; it is one of the most desirable of plants for the dinner-table and decorative purposes of all kinds, and for cut flowers is indispensable. Everybody should grow it.

It is increased by division, November being the best time to divide the plants into as many parts as there are crowns, preserving to each a good portion of root. Plant them in a bed of rich friable loam, enriched with leaf soil, and deeply dug. The divisions may be put in in lines 1 foot apart, and 6 inches from each other in the lines, not covering the crowns more deeply than an inch with soil. In spring mulch the bed with an inch thick of rich compost, such as equal parts of turfy loam made fine, leaf mould, and old cow dung or very rotten manure. Keep the plants clear of weeds, and water them copiously during dry weather in summer. The following and succeeding spring stir the surface of the beds, and mulch with rich compost as in the previous year. In three years they will be fine plants. A slightly shaded situation is most suitable.

If the plants are required to bloom at Christmas, they should be potted in the beginning of November, employing pots just sufficiently large to hold the roots. Good drainage should be given, and the soil may consist of sandy loam two parts, and one part leaf mould. After potting water gently, and set the pots on ashes in a frame if the plants are not wanted for immediate forcing, plunging the pots in, and covering them with, about an inch of spent tan, sawdust, or cocoa-nut refuse, which last is best. From the frame they may be taken into the forcing house at fortnightly or more distant intervals from November to March. If required to bloom at Christmas, the plants, on being potted early in November, should be placed in the forcing house at once, setting the pots on the floor, and covering them about an inch thick with any kind of loose material. The temperature from fire heat should not exceed 45° for the first fortnight, and when the leaves are appearing through the plunging material remove the pots, and place them in a position near the glass, so as to keep the plants dwarf, for if set at a considerable distance from it they will be drawn up tall and weakly. An abundance of water and a moderate amount of air are required, the temperature being raised to 50°, and not exceeding 55° from fire heat. The plants bloom in about six weeks after being introduced into heat. After flowering they should be kept under glass until they are well hardened-off, and danger from frost is past; then turn them out of the pots in a shady border. In November they may be divided, and with the treatment before given they will be quite fit to be forced again in two or three years.

Dielytra spectabilis is, perhaps, the most brilliant of spring-flowering deciduous herbaceous plants. It is too well

known to require description. It requires a rich light soil. One-half loam, one-fourth leaf soil, and one-fourth old cow dung, will grow it well. It is increased by division of the crown early in spring, and by cuttings of the shoots in summer, which strike freely in sandy soil in a gentle heat.

For forcing good strong roots should be taken up in October, and potted, and though they may be forced at once, I prefer growing them in pots a year previous to forcing, putting them in good-sized pots or such as they will go into without cramping, and I plunge the pots to the rim in ashes in a sheltered sunny situation. Cover the crowns with any kind of loose material, as leaf soil, and they will be safe from frost. The following summer they are well supplied with water whilst in active growth. When the leaves turn yellow lift the pots, and transfer the plants to larger pots, loosening the sides of the balls with a pointed piece of wood, removing as much of the old soil as far as is practicable without injury to the fleshy roots. The shift should be liberal. Set the pots on ashes, and cover them as well with ashes to the depth of about 3 inches. They may then be taken into the forcing house as required.

When placed in the forcing house they should have a temperature of 40° at night for a fortnight, then raise it to 45°, and progressively with growth to 50°, which is a sufficient temperature from fire heat. They should have a light and airy position. Forcing for blooming at Christmas should be commenced the second week in November, and plants introduced at fortnightly intervals to March will keep up a succession of bloom till April. Water should be sparingly given until the plants are in free growth, then water copiously.

After flowering continue the plants under glass, hardening them well off, and then plunge the pots out of doors in a warm situation. The plants should be potted when the foliage decays, and to prevent second growth they should be kept dry, otherwise early-forced plants not unfrequently start into growth in summer in moist weather and flower again in autumn. They may be forced the second year, and successively. Plants not started before February will be as good for forcing in the second year as in the first; indeed, I have had them increasing annually in size and beauty for many years, when merely brought forward in a cool house. Plants 3 feet high and 6 feet in diameter, may be grown in pots. I have found growth encouraged by weak liquid manure given alternately with pure water when the plants were growing freely.

Dielytra spectabilis flore-albo with white flowers, makes a charming companion to the pink-flowered form.—G. Abbey.

DOYENNÉ DU COMICE PEAR—CORDON TRAINING.

The very attractive description given in a recent number of "our Journal" of that most delicious Pear Doyenné du Comice will, no doubt, incline some of your readers to become purchasers of such an excellent variety. I have cultivated this fruit in my garden, situated amongst the hills of Yorkshire, for eight years, and some account of my failures and successes may be useful to others.

In the autumn of 1861 I asked Mr. Rivers to send me, amongst other things, a dwarf-trained plant of Doyenné du Comice on the Quince stock. When it arrived it proved to be grafted on the Pear, and Mr. Rivers accounted for this by saying that he had not been able to persuade this Pear to succeed well on the Quince. This plant was placed against a south stone wall, and received every attention. It was from time to time lifted and root-pruned, yet not so severely as unduly to check its vigour. At last, in 1867, its one fruit bud flowered, and set one fruit. This precious specimen grew to be about 5 ozs. in weight, and ripened off well.

The summer and autumn of 1867 were cold, wet, and cloudy, and most unfavourable to the ripening of fruit, nevertheless Doyenné du Comice did not seem to be injuriously affected, but ripened well its fruit and its wood, and sustained the following winter a temperature of 10° below zero. So I think this variety may be considered to be not only very hardy, but also suitable for cool climates. In 1868 this tree bore six fruit, the largest of which barely reached 6 ozs.; it proved to be melting, juicy, watery, flavourless.

In 1864 I succeeded in obtaining this Pear budded on the Quince, and I planted it against a south brick wall, and it made stout, satisfactory growth year by year. In 1867 I purchased a single cordon on the Quince, and placed it by the side of the tree purchased in 1864. Both these trees on the Quince bore fruit in 1868. The 1864 tree gave me nine large Pears of nearly equal size, the weight of the largest being 11¼ ozs. The single cordon, though it had only been planted during the previous autumn, carried two large fruit, each weighing 10½ ozs. How good these Pears were!—better than Conseiller de la Cour, better than Marie Louise, better than Winter Nelis, better and more Peach-like than any Pear I have ever tasted. Strange that while the fruit from the Quince stocks should be so good, those from the Pear stock should be so inferior. As these two trees on the Quince did not in the autumn form any fruit buds, they were both forked most carefully out of the ground, slightly root-pruned, and then replanted with fresh soil and a liberal supply of manure. The result is that last summer they made a robust healthy growth about 18 inches in length, and have covered themselves with fruit spurs.

This year Doyenné du Comice on the Pear set six fruit; three of these fell off in August and September, though the tree was well mulched, and never suffered from dryness, was in perfect health, and had not been disturbed for two years. The three remaining fruit barely attained the weight of 7 ozs., and were watery and flavourless. As this tree has a few fruit spurs on it, I shall give it one more trial. In a neighbouring garden a tree of Doyenné du Comice on the Pear stock has grown there for nine years, and the gardener has not seen on it so much as a single flower. From this I conclude that the Doyenné du Comice is a very shy bearer on the Pear stock, and will not give fruit of large size and true to character until it has reached a mature age. Who would think of waiting all these years, when, by buying a single cordon on the Quince, fine fruit may be gathered within the space of twelve months? On the Quince stock it is evidently quite sufficiently fruitful for its health.

If anyone has recently procured this tree on the Pear stock, I recommend him to throw it away at once—this course will save endless trouble and annoyance—and buy it budded on the Quince, dwarf, and trained upright exactly like a five-pronged digging fork. Such a tree as this will occupy scarcely a yard of wall in length, and will never require any more room. In three years it will bear a nice crop. In eight years it should reach the top of a 12-feet wall, and produce annually from fifty to sixty fruit. This is quite a moderate estimate, as several of my trees so trained yield annually eighty Pears, or even more. This is the most profitable, and therefore the best mode of training all fruit trees. They can all be trained upright, and are more healthy, and more fruitful, than when trained horizontally. A fruit wall should be covered from one end to the other, and from the bottom to the top, with fruit-bearing branches 9 inches apart. Each Pear cordon should bear twenty fruit annually. Four hundred and fifty fruit on 6 yards of wall—what an enormous produce! and that obtained here year by year, without exhausting the trees. In 1867, my Pear trees gave me 1000 fruit; in 1868, 1200; in 1869, 1300, all fine, free from cracks, thus showing a progressive increase, and no exhaustion.

Here Pears, Plums, Apples, Cherries, and Peaches, are trained upright, as I have described. All now have reached the top of a 12-feet wall, and all bear profusely. So successful has this upright mode of training proved to be, that several of the gardeners around me have heartily adopted it.

Then, again, no other plan of training is so economical of space. The entire wall is covered; no vacant places, so commonly to be seen where trees are trained on the fan or horizontal method. Then, how soon the wall is covered! It requires fifteen years for a tree trained after Seymour's fan-system to reach the top of a 12-feet wall. Eight or nine years will suffice to cover the same wall with upright-trained trees. Who would wait for fifteen years for that which can be done better in nine years?—C. J. M.

NOTES ON ROSES.

The experience of Rose-growers varies remarkably, and, consequently, each may mention facts new and, therefore, interesting to the brotherhood. Now, my ground, like Mr. Kent's, as stated by him October 7th, is light, and yet many little items that he mentions I have to say the reverse to. Charles Lefebvre and Marie Baumann, which he instances as models of constancy, I find very uncertain; on the other hand, Alfred Colomb, John Hopper, and Pierre Notting, which he mentions as behaving badly with him this year, have been about my best. Maurice Bernardin has with me a dull streaked blossom.

Beauty of Waltham is of a dull cherry colour, very loose in texture. These two Mr. Kent puts among his most brilliant crimson scarlets. Lord Macaulay succeeds neither with me nor with anyone that I know of in this neighbourhood. Its blossoms are small, and of a muddy plum colour, and the constitution of the plant wretched. Exposition de Brie has not had a single well-opened blossom, while Dr. Andry, which Mr. Kent describes as dull, is with me almost the most brilliant-coloured Rose I have. Antoine Ducher is first-rate with me in all respects; Thorin the same. Charles Rouillard has bloomed most profusely; the blossom most regular in shape, but the colour, a poor lilac, is unpleasing to me.—Q. Q.

MELONS ON RIDGES.

It may interest amateur gardeners to know, that although the summer was very backward this year, I have again to record my success in growing the Melon Achaspesnorricher (scarlet flesh), out of doors on a ridge, and although, owing to the late spring frosts, I was unable to turn the plants out so early as last year, still I grew some excellent fruit, the largest weighing 6¼ lbs. The old Beechwood Melon (green flesh) also, under the same treatment succeeded well and produced even better-flavoured fruit than the same sort grown in a frame; though small, weighing but 2½ lbs., yet they were handsome, and, as I before remarked, of exceedingly good flavour; in fact, so good that some of my friends intend in future to rely on out-door culture for this part of the year.

I find the beds should slope towards the south. The crowns of the plants should have a pot placed over them to protect them from the wet and too much sun, and the fruit should rest on slate, otherwise the part touching the ground is apt to rot.

Planters should be particular that the plants receive no check from putting them out too early, or taking them from a very warm frame. The larger the hand-lights the young plants when placed in the bed are covered with the better. In my own case, those only covered with small bell-glasses when first planted produced the smallest fruit, while those started under a ground vinery grew the largest and best, though all were planted in the same soil and on the same day.—Harrison Weir, *Weirleigh, Kent.*

GOOD CIDER APPLES.

[At the request of several correspondents we have inquired for the names of these, and the following is a reply we have obtained.—Eds.]

It is difficult to obtain the names of the best cider Apples, for men who understand the art of making excellent cider are very often ignorant of the names of the trees in their orchard from the fruit of which it is made. One of my neighbours, however, of whom I bought a hogshead of first-rate cider in the spring of this year, tells me that he makes his best of Royal Wilding, the Norman, and Skyrme's Kernel, all mixed together.

The Royal Wilding is of good quality, yielding better than "family" drink, but not quite equal to the others. The Norman is a vigorous grower, an important point in a light soil, and soon comes into bearing. Several of the best cider Apples seem, like the old Golden Pippin and the Ribston, to have worn-out their constitution. Such are the highly-valued Skyrme's Kernel, of which even newly-grafted trees are feeble and sickly, and the famous Fox Whelp, which yields a dry cider of considerable strength, not long remaining luscious as some ciders do, but reaching maturity early, and fit to drink in a few months after it is made. This Apple is still grown in Herefordshire, and I bought a good cask of its cider this year. The White and the Yellow Styre produce cider which has been known to sell at 2*s.* 6*d.* a-gallon—a high price in this part of the world—but they are somewhat shy bearers. In Mr. Knight's "Pomona Herefordiensis" it is mentioned that the Brandy Apple, now chiefly known as a dessert fruit, used, as well as the Golden Pippin, to be extensively grown as a cider Apple, and that it takes its name from the potency of the beverage produced from it. I have heard of its being still used for this purpose, and also of its continued strength. The Herefordshire Red-streak is another well-known Apple, but I am not sure of its constitution. Among the best is the Black Kington or Kingston, the cider of which from a farm in this neighbourhood gained the prize last year both at Hereford and at Gloucester.

In Somersetshire I have heard that no fruit is more highly esteemed than the Underleaf, which takes its name from the peculiar way in which the fruit is concealed by the foliage.

The best cider in this county is made on clay lands, and on a light soil the vigorous and large-leaved kinds, such as the Blenheim Pippin, among dessert fruit, are the most successful. It will be well for your correspondent to bear in mind the quality of his soil, and adapt his trees to it.

"The best sorts of fruit are the Royal Wilding, Fox Whelp, White Bush Normandy, Yellow Styre, Handsome Mandy, and Skyrme's Kernel."—(*Quotation from a letter of a prizetaker in* 1859.)

A correspondent says he has only two kinds of Apples from which he has succeeded in making the best cider—that is, cider sufficiently good and rich for bottling, and these are the Devonshire Red-streak and the Kingston Black Apple, the latter of which makes much the richest of any Apple that he has ever known, though not, perhaps, equal in strength to the Devonshire Red-streak, or some other kinds; but he prefers a mixture of those Apples to make nice and palatable cider; though it is more difficult to manage, being more liable to fret and become of inferior quality when mixed than when made separately. He has exhibited cider made from the Kingston on two occasions at Hereford, and on three at Gloucester (which are the only times he has exhibited), and has received four first prizes for it, two of which were in October and November last; therefore, he thinks that he is justified in supposing there is no Apple in Herefordshire or Gloucestershire which surpasses it.—Wyeside.

BOILERS—HEATING THEM AND BY THEM.

I expected to have my views about heating boilers from above controverted, as I was well aware that they are contrary to preconceived notions; but Mr. Woolfield ought to know that contradiction is not argument, and it is no compliment to say I did not reflect.

An oven is heated much the same as water in a boiler, by the heated particles of air rising, and the top of an oven will always be hotter than the bottom. It is true that water is boiled by convection; but it is a very different thing boiling water in a kettle over the fire to boiling water in a close boiler like a saddle boiler, where there is a flow-pipe to carry the water off when heated, the cold water being supplied by the return; and when once the fire is well lighted and begins to act upon the water, a constant current or circulation of water is kept up. The relative value of heating surfaces which Mr. Woolfield quotes is very arbitrary, and refers more to boilers set for generating steam; but even were I to allow (which I do not), that the relative values of heating surfaces are such as he quotes from Molesworth's "Engineers' Pocket-book," yet even then I can prove that the flame playing over the top of a saddle boiler has much more relative value than he is inclined to admit. The top of a saddle boiler is convex, and therefore varies from vertical to horizontal. Take the average of the curve, the value of the vertical surface being 0.50, and of the horizontal 0.00, the value of the heating surface of the whole curve will average 0.25; and as in most saddle boilers the exterior curve is about one-fourth larger in point of surface than the interior curve, this will raise the value to 0.343 as the average value of the whole heating surface of the upper part of the boiler. And, as in the same way, the interior upper surface of the boiler is concave, the value of the heating surface of the interior will vary according to Mr. Woolfield's laws from 0.50 to 1.00, or, taking the average, it will be 0.75; so that, even according to the data given by Mr. Woolfield, the exterior upper surface bears no small relative value to the interior—*i. e.*, 0.343 to 0.75. If Mr. Woolfield denies the accuracy of this he will have to deny there is any heat given to the upper surface of pipes when introduced into boilers, as in the case of one of Ormson's new patent tubular boilers, as see the right-hand figure in the advertisement which occurs every week in "our Journal," or, again, in Shanks's combined saddle and tubular. It is, however, absurd to give 0.00 as the value of horizontal surfaces under flame; because, if this were true, and these pipes, as in the two instances I have quoted, were square instead of round, the upper one-fourth would be of no use; besides which, the relative value of 0.00 to 1.00 is infinite and indefinite. The value of horizontal surfaces under flame must be definite—that is to say, it must bear some relative proportion, and I have yet to be convinced that it does not bear a much greater value than what is usually allowed; because, as

I think I before stated, though I have not the paper by me, as there is a constant circulation of heated water in a saddle boiler, the water which comes in from the return-pipe, having been cooled as it has gone through the pipes in the houses, comes in contact first of all with the heated sides of the boiler, then rises to the curved portion, and strikes against the upper surface. If this upper surface were not heated by the current of flame playing over it, it would either repel the water or help to cool it; but as the heated air from the fire is of necessity hotter than the water in the boiler, it assists to heat the water still more, and so helps the flow; and as the flame passing over the surface of the boiler also plays round the flow-pipe, which it surrounds, it adds additional heat at a most important point.

Mr. Woolfield corrects me in another point about the diameter of the feed-pipe. I am aware he is right about the pressure of water depending on the height of the column of water in the pipe, but it is also true that when hydraulic pressure is applied to water in a small pipe it is greater than when applied to a large one. I may have overrated it, but as the feed-pipe has to relieve the boiler of the pressure caused by expansion in boiling, the larger the size of the feed-pipe the more easily the pressure is relieved. Many leaks in joints are owing to a small feed-pipe, and it will always be noticed when a joint does leak it leaks far more when the water in the boiler is very hot.

And now I must make a few remarks upon Mr. Woolfield's paper, in which he gives directions for the quantity of piping required to heat a house a certain number of degrees of heat above the temperature of the atmosphere. He tells us the quantity of air to be warmed per minute is 1¼ cubic foot for each foot superficial of glass the house contains—to be warmed how much? The radiation of heat from a house does not depend so much on the difference of temperature between the external and internal air as on the force and the direction of the wind, as regards the surface of glass exposed. This is such a variable quantity that no general rules can be laid down. One night two weeks ago, with the thermometer at 25°, a small house cooled so rapidly that, although there is a flow and return pipe at the back of the house, it was found necessary to light a fire in a flue which used to heat the house previously to the hot-water pipes being put into it, and although a good fire was kept up in the furnace the thermometer inside fell to 40°. The next night the external temperature was as low as 19°, but the temperature in the house never fell below 45° without the flue being used at all. In reckoning the radiating powers of glass, the angle of the roof has also to be considered.

Again, I do not agree that two rows of 2-inch pipes are superior in economy to one 4-inch pipe, because the water in the 2-inch pipes cools down twice as quickly, and, therefore, though it may require less fuel in the first instance to heat them, it requires much more afterwards to keep the heat up, and for nightwork this is the most important point.

Again, he gives 125°, a fixed quantity, as the excess of temperature of the pipe above the surrounding air. This, I need hardly say, will vary with the difference of distance from the fire, and with the fire itself. Again, he gives 222 as the number of feet of air raised 1° per minute by 1 foot of 4-inch pipe. This, also, which he gives as a fixed quantity, must vary according to the heat and also the position of the pipe, and the radiating power of the external atmosphere. In fact, I think I may fairly say that all the data which he gives as fixed rules for finding out the necessary quantity of pipes are variable and uncertain.

One square foot of boiler for every 50 feet of pipe may be a very good rule; but on this head, again, doctors differ, as Mr. Weeks, in his pamphlet on greenhouses, &c., gives 25 feet for 200, 250 feet for 4000, 400 feet for 10,000. I am aware that in this Mr. Weeks calculates every surface of any sort in the tubular boilers, and I also think there are great discrepancies, especially in the last two items, where 150 feet additional surface has to heat 6000 additional feet of pipes, whereas a boiler with 150 feet of heating surface in the same list is calculated to heat 1500. I have only quoted this to show there is great difference of opinion on this head, and I am now heating thoroughly and efficiently nearly 450 feet of piping with a boiler which, according to Mr. Woolfield's method of calculation, would only be sufficient for about 300 feet; but then I calculate the exterior and upper surface as an additional source of heat, which Mr. Woolfield does not.

What Mr. Woolfield states as to unnecessary depressions and rapid curves cannot be too strongly insisted upon, and that is another reason in favour of 4-inch pipes over 2-inch, as there is less friction, and water flows more freely. Let me again repeat that the position of pipes, so as to allow free radiation, is most important; and if persons do not believe in radiation of heat downwards, let them place some pots 2 feet below hot-water pipes and see how rapidly they will dry; or, again, fill a bottle with water, and put it flat underneath a grate, and another bottle of an equal size at the same distance in front of the fire, and see which will be heated first. I would also impress on your readers that the laws for boilers for generating steam, for boilers for the circulation of hot water, and ordinary boilers, such as those set at the side of a kitchen fire, are not the same.—C. P. Peach.

APPLICATION OF MANURES.

I must say I was much surprised at seeing the following remark, "When Professor Voelcker speaks of no fear of waste if the soil contains clay, he only refers to what is washed into the soil by the rains." The whole tenor of his argument goes to show that little or no loss can be sustained by spreading manure, whilst an enormous loss is usually sustained by rotting manure in heaps exposed to rain. He very properly says "if the soil contains clay," because the soluble ingredients would wash through some poor sandy soils if put on too long before the crop intended to be benefited were sown. From the editorial remarks it would also appear that there was a difference of opinion as to the propriety of burying manure as soon as convenient. Now I think this is hardly a fair inference. All I contend for is that manure takes so little harm from sun and wind when spread on the ground, that it is foolish to keep it in heaps when rotten manure is not a necessity, as in the case of sandy land. Then, again, I cannot agree with our Editors "that the guano latitudes are characterised by a singular absence of rain." From what I have gathered of those regions rain very seldom falls there, and those places like Peru, where the least rain falls, send us guano which is richest in salts of ammonia. From this I gather that if there were no moisture there would be no loss. With regard to the value of any carbonic acid which could be lost by spread manure, I should say it would be about equal in value to that given off by the "old stick."

There is one point in the editorial remarks which appears worthy of consideration—"Urine rapidly decomposes in the litter of a stable." No doubt it does when the stable is warm enough to induce fermentation, and when each fresh supply of urine comes in contact with urine undergoing change. How long will a sound Apple remain sound when in contact with a rotten one? But who ever smelt ammonia very strong in a cold clean stable? and where it is most abundant how little is necessary to produce the effect perceived. Can anyone contend that urine exposed to sun and wind is under the same conditions as urine in a damp, warm, and close stable? I keep eight horses myself, but if my stables smelt strongly of ammonia I know some one would hear of it; nor do my men use gypsum or anything else to fix the ammonia. Thinking that Professor Voelcker was most likely to know what he intended to teach, I sent him the Journal of December 2nd, and asked him to be kind enough to state whether the inference drawn from his essay was correct, and he very courteously sent me the following reply, which, as far as I am concerned, closes the matter. The subject to me is one of great interest, because it is of great importance to me personally. Paying as I do some hundreds a-year for manure, besides what I make on my own farm, it would not be pleasant to think a good deal of it had been wasted; still, it would be much worse to pursue such a course in error.—J. R. Pearson, *Chilwell, Notts.*

DR. VOELCKER'S LETTER.

"In reply to your note, I beg to say that the Editors of The Journal of Horticulture do not give a correct explanation of my decided opinion that farmyard manure spread out on the field loses no fertilising matter by exposure to wind and sun. My opinion rests on experiment, and not on mere speculation; and the practical direction which I always give to my farming friends is, Take your dung on the field *at once*, and wait till the land is in a fit state to be ploughed up. I have noticed over and over the mischief which is done by ploughing in manure in wet weather when the soil was not in a fit condition to be worked by men or beasts. In clay soils, especially, more harm is done by the plough and horses' feet than good by the manure. It is, therefore, most desirable that agriculturists

and gardeners should know that wind and sun do not dissipate any fertilising matter when dung is spread in the field. The whole amount of free ammonia, or rather carbonate of ammonia, in fresh farmyard manure amounts, as shown in one of my experiments, to only 0.189 of a per cent.; and it does not follow as a matter of course that even this small fraction of a per cent. of ammonia will find its way into the air, for it is far more likely that the soil will at once absorb it when the manure is spread on the field. Allow me to direct your attention to an experiment which you will find recorded in my paper on farmyard manure in the Royal Agricultural Society's Journal. On the 3rd of November, 1854, I put up a heap of dung weighing 2838 lbs. In this quantity the total amount of nitrogen present in any condition was 18.23 lbs. On the 30th of April, 1855, I weighed again the heap, which had been exposed to the air all that time, and found in it the total amount of nitrogen 18.14, or almost exactly the same as in the November of the preceding year, showing that no ammonia whatever was lost by exposure to the air. Yours faithfully—Augustus Voelcker."

[The above confirms our opinion. By leaving manure on the surface of the ground exposed for a length of time to the sun and wind it can gain nothing, and certainly does lose some of its fertilising constituents. Mr. Pearson now admits this, although "so little." Let it be granted that the nitrogen it loses is in all instances as small as that shown by Dr. Voelcker's experiment, why should that be lost needlessly? It amounts to much where hundreds of tons of manure are used. We quite agree that it is bad culture to plough or dig in manure into a heavy soil whilst it is wet, and we also agree with Mr. Pearson that it is worse practice to leave manure in heaps than to spread it. He says that is all he contends for. So the controversy closes.—Eds.]

CORDON APPLE TREES AND RABBITS.

A few years ago, either from your columns or Mr. Rivers's "Miniature Fruit Garden," I learnt how to plant and train these trees, and I should have had some success had it not been for those sad pests to gardens—rabbits. I seldom or never see one, but my neighbours tell me that if there is a rabbit within a mile he will smell out a young Apple tree, so will a hare. The consequence of this is, that my cordon trees are nibbled so as to bring on canker and make them objects of disgust, for a cankered Apple tree is an ugly thing. I have tried the remedies often suggested in your columns, such as painting the trees with lime, and soot, and milk, but these washes soon vanish in winter owing to the alternations of frost and thaw (I once tried coal tar, and once only, for it destroyed my trees), and then Mr. Rabbit seems to rejoice at his meal on clean bark, and will ruin a dozen trees in a night.

Mr. Robinson recommends with great enthusiasm cordon Apple trees for market gardens. If he could spend but one season in an unwalled market garden of his own planted with cordon Apple trees, he would be a wiser and, perhaps, a sadder man. There is no difficulty in cultivating cordon Apple trees in walled gardens, but in unwalled gardens even as near London as Fulham, rabbits are always doing mischief. I have within the last year or two found what is in my experience a new method of doing mischief by these vermin; they used to gnaw off the bark, but they now prefer a daintier dish, and eat out all the blossom buds before they commence to gnaw the bark.

My gardener recommends thorns from the hedges bound to the trees, or straw tied to their stems, in both cases not agreeable nor adapted for large gardens.—Inquirer.

ENTOMOLOGICAL SOCIETY'S MEETING.

The December meeting of this Society was held on the 6th inst., the President, Mr. H. W. Bates, being in the chair. The Baron von Holten, a Russian entomologist, was present as a visitor. Some important entomological works, published by the Swedish Government, were on the table. Mr. Frederick Smith exhibited on the part of Mr. Lord the case made by the caterpillar of a species of Oiketicus, taken by him on Mount Sinai, several miles distant from any tree or bush, the only plants of which the case could have been made being a kind of wild Sage; also the cells of a wild Bee of the genus Halictus, the cells being formed in a large cluster at the foot of a tubular tunnel 12 inches deep, the mouth of which was defended by a trumpet-shaped tube of sand.

Professor Westwood exhibited drawings and specimens, and described a number of remarkable new exotic species of Pselaphidæ and Chalcididæ. Mr. Jenner Weir exhibited specimens of Heliothis armigera, the caterpillar of which had devoured the interior of a quantity of the fruit of Tomatoes imported from Portugal. Mr. Albert Muller exhibited photographs of a monstrous specimen of Pterostichus Prevostii Dejeam, captured near Neufchatel, in Switzerland, having two supplemental legs affixed to one of the ordinary hind legs. Mr. MacLachlan read a note on the species of the curious genus Borens, with the view of proving that the B. Westwoodii of Hagen had no claim to be considered as an English insect.

Dr. Wallace communicated a notice on the recent results obtained in the cultivation of the different new exotic species of Silkworms in this country, with directions for the most effectual rearing of each.

The Secretary read a notice by Mr. Sidebottom on the modifications of colour in caterpillars, chrysalids, and perfect insects, reared under different coloured glass, which led to an extended discussion, in which Mr. Wallace suggested the advisability of rearing the insects under reflected rather than under transmitted light, by placing them in boxes lined with different-coloured papers, adding that the employment of different-coloured glasses in plant houses had for its object the modification of the temperature, and not of the colours of the plants.

ROYAL HORTICULTURAL SOCIETY.

December 21st.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. The Rev. George Kemp, Sevenoaks, offered two prizes, one of £3 for the best, and the other of £2 for the second best winter dessert of Apples and Pears, three dishes of each. There were six competitors. Mr. Tillery, of Welbeck, sent Calville Blanche, Blenheim Pippin, and Cox's Orange Pippin Apples; Van Mons Léon Leclerc, Doyenné du Comice, and Winter Nelis Pears. Mr. Earley, of Digswell, sent Joséphine de Malines, Winter Nelis, and Chaumontel Pears; and Ribston Pippin, Cockle Pippin, and King of the Pippins Apples. Mr. Gilbert, of Burghley House, sent of Apples, Blenheim Pippin, Ribston Pippin, and Lord Burghley; and of Pears, Beurré Langelier, Passe Colmar, and Beurré de Rance. Mr. Sidney Ford, of Leonardslee, had of Pears, Knight's Monarch, Duchesse d'Angoulême and Joséphine de Malines; and of Apples, Ribston Pippin, Blenheim Pippin, and Red Pearmain. Mr. Garland, of Killerton, Devon, sent Golden Pippin, Nonpareil, and Ross Nonpareil Apples; and Winter Nelis, Glou Morçeau, and Bergamotte Esperen Pears. Of the collections, all of which were good, the best both in appearance and flavour was undoubtedly that sent by Mr. Garland, to which the first prize was awarded, and the next that of Mr. Ford, which received the second prize. The Knight's Monarch of Mr. Ford were unusually fine.

Mr. Cramont, gardener to Edward Backhouse, Esq., Ashburne, Sunderland, sent a seedling Grape, somewhat of the character of White Tokay, a good, long, and showy bunch, but the berries possessed no flavour; if they ever did it must have passed, the fruit having evidently been ripened for some time.

Mr. Thomson, Dalkeith, sent a bunch of White Lady Downe's Grape, which not being ripe, and the flavour undeveloped, a wish was expressed that it be sent again in March. It was considered by the Committee to be a promising variety. Mr. A. McLeod, gardener to Mrs. Holt, Sudbury House, Harrow, sent two large bunches of Gros Guillaume, called Barbarossa. Mr. Tillery, of Welbeck, sent dishes of Beurré Superfin and Forelle, grown on a trellis of an arcade. Both were of very good flavour, particularly the Beurré Superfin, Forelle being rather watery. These were equal in flavour, if not superior, to all others exhibited. He also sent a seedling Pear raised from the Chaumontel crossed with Gansel's Bergamot, but the Committee could not observe any difference between it and the Chaumontel.

Mrs. Blackett Ord, Whitfield Hall, Haydon Bridge, Cumberland, sent fruit of Farmer's Seedling Apple, which is a good kitchen Apple. A dish of very fine Tangierene Oranges came from Lady Dorothy Nevill, Dangstein. In size and flavour they were superior to imported fruit, and a special certificate was awarded to them.

Mr. Dancer, of Little Sutton, Chiswick, sent a dish of Cox's Orange Pippin, and Beurré d'Aremberg Pear, the former superior in flavour to all the Apples exhibited at this meeting, and a special certificate was awarded to them. Mr. Hepper, gardener to J. H. Walmsley, Esq., Acton, sent a basket of remarkably fine Chaumontel Pears, which received a special certificate. Mr. Hepper sent fruit of the Telegraph Cucumber, well grown for the season, and in consideration of the cultivation received a special certificate. Mr. W. Holah, Rufford Gardens, Ollerton, sent a seedling Cucumber, which was very much out of condition. Mr. Bull, of Chelsea, sent roots of a Red Beet called Incomparable, some of which were cooked, but neither in colour nor flavour did the Committee consider it an acquisition, or an improvement on other sorts in cultivation.

Messrs. James Carter & Co., of Holborn, sent Globe Tripoli Onion weighing 3 lbs., New Giant Rocca weighing 3 lbs. 9 ozs., two Italian Red, 2 lbs. 6 ozs. and 2 lbs. 11 ozs. These were grown at Naples, and excited great admiration from the Committee, and were awarded a special certificate. Mr. P. J. Perry, of Banbury, sent roots of the Banbury Improved White Spanish Onion, large and handsome, the twelve bulbs weighing 12¾ lbs. They were awarded a special certificate. A special certificate was also awarded to Mr. W. B. Trigg, Hayling Island, for a dish of large and well-grown Shallots. A special certificate was also awarded to Mr. Sidney Ford, for his collection of Potatoes.

Floral Committee.—Rev. J. Dix in the chair. This was the last

meeting of the season, and terminated the labours of the Committee for 1869. The Society may be congratulated on the success of the Tuesday meetings of the passing year, which have been so well attended by its Fellows. These meetings have afforded them an opportunity of seeing and examining a large number of new and valuable plants and flowers: 430 certificates have been awarded to specimens exhibited either as novelties or deserving of rewards for superior cultivation; and when it is remembered that the Fruit and Vegetable Committee have had equal success in the specimens sent to them, we can bid adieu to the labours of 1869 with great satisfaction.

The inclement weather, doubtless, was the cause of the few plants sent to this meeting, and yet there were many of great interest. Mr. Baker, Plumstead, sent a variegated Antirrhinum, which variegation has been often seen before. Messrs. Henderson, Wellington Road, sent a very large collection of Ivies, which were awarded a special certificate. Among them was Hedera rhomboidea obovata, with very dark foliage, which received a first-class certificate. From the same firm came a dwarf Heliotrope, called Jersey Beauty, and Pansy Golden Beauty, very sweet-scented, and useful for bedding purposes.

Messrs. Standish brought fine specimens of their yellow Picotee, very highly coloured and beautifully marked, a Begonia, and cut specimens of six very pretty Bouvardias. Mr J. Atkins, Painswick, Gloucestershire, sent cut flowers of a hardy seedling Cyclamen —hederæfolium græcum, which were highly commended. This plant will be found very useful for rockwork. Messrs. Salter exhibited a variegated form of the common Violet, beautifully variegated, with few flowers; it was requested it should be sent again. Mr. Edmonds, Hayes, received a special certificate for a fine collection of Cyclamens. Mr. Welsh, Hillingdon, also received a special certificate for a smaller collection of Cyclamens, with deep rose-coloured flowers.

Mr. George, gardener to C. H. Marshall, Esq., Caversham, was awarded a special certificate for a well-grown specimen of Calanthe Veitchii, with a spike of beautiful rosy flowers.

Messrs. Veitch received a first-class certificate for Hippeastrum Leopoldii, the flower the King of the Belgians so much admired, and was pleased to allow to be named after himself. This is one of the finest Hippeastrums yet seen, and perfectly distinct from any other. A special certificate was awarded for Messrs. Veitch's group of Orchids, which were very beautiful. Among them was Cypripedium insigne splendens, which was said to be identical with Cypripedium Maulei. From the Society's gardens were two new Orchids, Polycycnis sp., and Lycaste sp., from Costa Rica.

Messrs. Lee, of Hammersmith, sent a very excellent group of shrubs; among them were fine specimens of variegated Hollies, well furnished with berries, and some fine specimens of the Golden Spruce Fir. A special certificate was awarded the collection.

General Meeting.—W. Wilson Saunders, Esq., F.R.S., in the chair. Nine new Fellows having been elected, and the Committee awards announced, the Rev. M. J. Berkeley said he had taken some pains to ascertain the real name of the beautiful species of Abies shown by Messrs. Standish & Co. at the meeting of November 16th. In the absence of the fruit it was utterly impossible to be certain what it was; but on comparing it with specimens at Kew, he found it accorded in all points with Abies obovata of Ledebour. The forms of Picea Pinsapo next came under notice, and it was remarked that the acute-leaved form, known to many as P. cephalonica, appeared to be the sterile state of P. Pinsapo, but that as soon as it assumes the blunt-leaved condition it becomes fruitful. Mr. Berkeley then remarked that the collections of Cratægus and Pyrus at Chiswick were always one of its attractions, and a quantity of the seed having been saved, packets would be distributed to those Fellows who might desire it instead of the collections of flower and vegetable seeds which are annually sent out. A report on the varieties of Maize grown at Chiswick was then referred to, and it was stated that out of a number of varieties sent by the Rev. T. C. Bréhaut, of Guernsey, through Dr. Hogg, the best were a large bright-coloured Maize, and another with large yellow cobs, which both ripened perfectly; and of five sorts sent by Dr. Hogg, the best was Bates' Early Bronze, which also ripened perfectly. Mr. Barron, in his report, remarked that Maize had been grown by Mr. Dancer, of Little Sutton, and it had ripened with him perfectly; also, that Mr. Scarrell, of Littlehampton, had grown it for many years with unvarying success; but it did not seem to him (Mr. Berkeley), that Maize would ever be cultivated in this country as a vegetable. There was another report from Mr. Barron, on Williams' Archimidean lawn-mower, which machine had been well tried at Chiswick, and was very much approved of; but unfortunately, when the Board came to try it, in consequence of coming in contact with a stone, one of the parts, being of cast iron, was broken; but this danger would be obviated by employing wrought iron instead.

The Chairman then said that Mr. Egerton Hubbard, jun., of Leonardslee, Horsham, had offered a prize of £5 for the best essay on the simple practical management of Cottage Gardens, to be printed on cardboard, and to be sold by the hundred to the secretaries of cottage garden societies, with the view of encouraging a better system of garden management among cottagers. He considered it was most important that the Society should encourage the improvement of cottage gardens, and requested Mr. Bateman to ask Mr. Hubbard who was to award the prize, and when.

Mr. Bateman most heartily sympathised with everything that would tend to the improvement of cottage gardens, and considered such efforts would do more to raise the character of the working classes than legislation, though more pretentious. He would suggest two cards, one for the cottagers in the country, the other for window gardeners.

Mr. Bateman then brought under the notice of the meeting an oil painting and a number of other coloured representations of fruits and flowers from Mr. Fernyhough, who had just returned from the Mauritius, and whose first act was alike grateful and graceful in presenting to the Society a fruit of the "Coco de mer" (Lodoicea sechellarum), as well as a portion of the fruiting stem of the Sago Palm. As regards the first-named, the double Cocoa Nut, it was unnecessary for him (Mr. Bateman) to remark upon it at any length, as a few months ago he had made it the subject of a lecturet; and as regards the Sago Palm, it afforded some idea of the power of tropical vegetation. The drawings of plants, one of which was said to resemble a Solandra, and of the Mangoes and other fruits, were then commented on.

The Orchids were next briefly noticed, especially Masdevallia Veitchii, Calanthe Veitchii, and a white variety of the well-known Lælia anceps, which, having only just opened, was rather dingy, but in three or four days it would be as white as the driven snow. A curious plant, too, was the Polycycnis, which, if really new and distinct, he intended to call Reichenbachii.

The Chairman, after moving a vote of thanks to Mr. Fernyhough, announced that the next meeting would be held January 19th, and that the meetings during the ensuing year would be all on Wednesday, instead of Tuesday as heretofore.

WELLINGTONIA GIGANTEA.

I have to thank Mr. Ridgway and others for their information respecting the Wellingtonia; and as so many report an uninterrupted course of success in the growth and appearance of their trees, I am in the hope that the few cases of a contrary kind, one of which has occurred here (Linton Park), may be traced to some local cause. Be this as it may, I am sorry to state that the tree here, that I reported upon some time ago as going wrong, has certainly become worse; and as it had flourished with the vigour common to the Wellingtonia up to the commencement of the hot weather of 1868, I was unwilling to believe that anything beyond suffering from want of moisture was the cause of its bad appearance during the memorable hot weather of the July of that year. A copious watering, however, did not restore it, nor even the ample rainfall of last winter. A steady decline in health, with the dying-off of the lower branches, indicate that something serious is the matter. Now, as the tree was between 24 and 25 feet high at the end of 1867, and is only 26 feet high now, its loss raises the question, Is the Wellingtonia likely to be a long-lived plant or not? The specimen referred to was growing in a favoured situation, there being at a very short distance from it a Thuja Lobbii 28 feet high, and Picea Pinsapo 6 or 8 feet higher, so that I am at a loss to understand the cause of the Wellingtonia going off so unaccountably. We have a great many younger trees of the same species, varying from upwards of 23 feet high down to some of small size, all seemingly most healthy, and one tree, about 20 feet high, has a number of cones upon it. As the Wellingtonias are placed in various situations, the loss of the largest one is by no means explained.

I am glad to be able to endorse what Mr. Ridgway says of the capability of the Wellingtonia to withstand wind, for our finest tree is planted in the open park, and in one of the most windy positions in it, and I believe it is the more robust in consequence. A hexagon fence, with sides of 9 feet, surrounded the tree, and the branches had found their way through four out of the six sides, so that we have been obliged to afford it more room.

I find that, as in the case of the Cedar of Lebanon, there is considerable variation in the appearance of different specimens of this tree, but somehow its detractors are a more numerous body than might be expected. Although I, for one, would be sorry to disparage it as a tree, yet if asked whether it or the Cedar of Lebanon were the more befitting plant for an avenue or a memorial specimen, I would have no hesitation in pronouncing in favour of the latter; but this is a question which can hardly be answered by any of the present generation.—J. Robson.

PORTRAITS OF PLANTS, FLOWERS, and FRUITS.

Eria vestita (Furred Eria). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Singapore and Manilla. The plant is clothed with soft hairs. Flowers orange, scarlet, and pale yellow.—(*Bot. Mag.*, *t.* 5807.)

Androsace pubescens (Downy Androsace). *Nat. ord.*, Primulaceæ. *Linn.*, Pentandria Monogynia.—Native of Pyrenees and

Swiss Alps. Densely tufted; flowers numerous and white.—(*Ibid.*, *t.* 5808.)

Blandfordia aurea (Golden-flowered Blandfordia). *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—Native of wet, peaty soils in New South Wales. Imported by Messrs. Veitch. Flowers yellow.—(*Ibid.*, *t.* 5809.)

Gladiolus cruentus (Blood-red Gladiolus). *Nat. ord.*, Iridaceæ. *Linn.*, Triandria Monogynia.—Native of Natal. Flowers deep crimson—(*Ibid.*, *t.* 5810.)

Vanda Denisoniana (Lord Londesborough's Vanda). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Arracan Mountains, on sheltered, shaded trees. Flowers white. (*Ibid.*, *t.* 5811.)

Aloe (Gasteria) Croucheri (Mr. Croucher's Gasteria). *Nat. ord.*, Asphodeleæ. *Linn.*, Hexandria Monogynia.—Native place unknown. Leaves white-spotted. Flowers pink, and green-tipped.—(*Ibid.*, *t.* 5812.)

Clematis.—*Thomas Moore.*—"Of the many beautiful forms of the hardy hybrid Clematis for which the lovers of gardens have to thank Mr. George Jackman and the Woking Nursery, this is certainly one of the finest. It is, in the first place, the largest at present known, since the flowers measure, when expanded, as much as from 8 to 9 inches across. It is, in the next place, one of the most striking and effective in its colours, which effect results from the large spreading tuft of filaments in the centre being white, so that they contrast strongly with the rich violet hue of the sepals, and give the flowers quite the semblance of belonging to some giant Passion-flower. It has the free-growing and free-blooming habit of the other Woking hybrids, and must be set down as one of the best and most distinct of the series."—(*Florist and Pomologist*, 3 s., ii., 265.)

ERECTING A GREENHOUSE CHEAPLY.

I am quite surprised at the very low cost of the "ornamental and useful" house built by a "Yorkshire Amateur;" so much surprised, that I am forced to believe that he obtained glass, wood, bricks, and mortar at a better market than we possess hereabouts. I am very glad that he has succeeded so well and so cheaply, and that he can thus hold out so much encouragement to many who are anxious to have a greenhouse, but count the cost. Like "Yorkshire Amateur," I built myself a house, was my own carpenter, glazier, bricklayer, hodman, blacksmith, putty-maker, &c., and although my structure is of more modest dimensions, my bill of costs amounted to over £3 10s., and was not nearly so well done, I fear, as my success (?) rather varies a "leetle" from the tale just told. Let me trouble your editorial eyes with a few trivialities.

I laid my foundation, thinking "never ventnre never have," and believing that "faint heart ne'er won fair lady," and on a memorable Friday the brickwork and framework were ready for the reception of the sashes. "There's many a slip betwixt the cup and the lip," and while I slept the enemy came in the form of "tornadoes and hurricanes," and what a sight presented itself to my bewildered vision when looking out next morning, fearing, yet hoping!—all was one complete wreck, bestrewed over a bed of Black Prince Strawberries some yards away. Acting on the motto, "Try again," I raised the scattered wreck, found it not so bad as it looked, and by the help of bolts and bars made my work stronger than it ever would have been, had the accident not been. Now, methinks, I'll have the pleasure of seeing my plants grow and do well. Alas! human expectations were the very opposite of every-day realisations. I could not make my plants grow; they made no roots, and what little they had became unhealthy—innumerable hordes of little white worms seemed to eat out the life of them all. I repotted them, and paid them as much attention as if they had been of my body begotten; early and late was I to be found in my "conservatory," still they grew not. Fuchsia cuttings that I received in April are as small as when I received them; Dahlias, that in my neighbour's garden grow to the pitch of excellence required by Mr. Glenny, in mine blossom not like a Rose, but a dog Daisy; my Solanum is happy in the possession of one berry! Dracæna terminalis is as brown as wrapping-paper; Chrysanthemums threw out their buds, showed a flower which cheered my heart and house, and then died from sheer fright at their own audacity. Of the rest, I can safely say no one shames his neighbour, but all vie to be as dull as this very dull weather, and all are as sparing of their flowers as the sun has been of his presence for some time. I feel quite a reverence for a good gardener, for the flowers as surely obey him as the bees do our very able Mr. Pettigrew.

I was glad to see you gave us Mr. Witherspoon's experience, and pleased to see that he elicited several responses, which were very useful to poor beginners like myself. I am pleased that Mr. Witherspoon is so successful. I knew him years ago, and was never aware that he was given to so delightful an occupation as gardening, and as the Cheshire man said to the "Beginner in Bee-keeping," "What one mon can do another can," so I'll keep up my head, and hope still to be a good gardener. At present I am the worst I see, and yet I read your Journal with more relish than Wilkie Collins's "Man and Wife." As Sir Robert Walpole always first opened his gamekeeper's letter, so I first read the Journal out of the batch of papers we are here blessed with on Thursday nights.

Can you give me any hopes of better days, by suggesting a remedy for my many failures?—Ignoramus.

[We feel quite sure that ere long, as respects gardening, you will have to drop your assumed signature, and that some of the best of us may well look after any laurels we have ever obtained. "Trying again, and again, and again," is what makes the man and the true hero. As to the expense of such home-made greenhouses, you would see from our advertising columns how cheaply a neat little house can be obtained with everything ready to be put together, but, as stated the other week, all is not "gold that glitters" in doing all such work for ourselves, if the time and labour are to be counted. This, by the way. In reading the racy account of your failures, we first thought the house may have been built with lime of some particular kind of stone, and that may not have mellowed and sweetened yet; but, then, that could hardly apply to rooted Fuchsias of last April which refuse to grow any larger. Next, we thought that the flue, if flue there is, might be rather fresh; but, then, that could not apply well to Chrysanthemums and Dahlias that should have made their flowering growth chiefly out of doors, and what could so thoroughly kill the Chrysanthemum after yielding its solitary bloom we cannot surmise, unless the root had an extra dose of strong or salt waters. We knew a case where plants could not be made to grow in a certain place, because they gave first a little trouble, and a certain pail came too frequently in contact with the soil in which the roots were placed.

Throwing aside all such ideas, however, and merely premising that besides Chrysanthemums and Chinese Primroses, and forward Camellias and Epacrises, and Winter Heaths, you will not be likely to have much in bloom, unless you can command an average night temperature of from 45° to 50°, we would be inclined to think that your want of success is chiefly owing to two causes.

First, To an ignorance of details rather than of general principles. In such a case as we said last week to "D. J. D.," pages 487 and 488, we would refer you to "Window Gardening for the Many," as most of the details there given will be quite as suitable for your small house as for a window. You will find that much depends on potting, on drainage, on fibrous sweet fresh soil, and the mode of watering, ventilating, &c. With fresh-cured sweet soil you will not be troubled with the little white worms referred to. One of the safest modes of destroying them is to water two or three times with clear lime water, made by putting a shovelful or more of quicklime in a barrel of water and using it when clear. You need not be afraid of the strength, as the water will only hold a certain amount in solution. The best way, however, is to be particular about the soil, and, if at all doubtful, heat it well and then cool it by exposure in a dry airy place.

Secondly, your want of success may be owing to impatience, to an over-anxious desire to see every movement in growth, rooting, &c. Too much kindness may be just as injurious as the want of requisite attention. We have known high-born ladies looking with something like envy on the chubby cheeks and robust frames of the toddling youngsters of their work-people, who were left to run and tumble about as they pleased, the good mother not being wonderfully upset with dust on a frock or a smear on a face. "Must not," carried to an extreme, makes a sad world for a child, and no wonder that under such constant looking-after the cheek becomes pale, and the muscles become weak and soft. So with our favourite plants. Give them what is necessary, and keep them clean, and leave them a good deal to themselves. We can well enter into your feelings if you have been a little impatient. Many scores of cuttings of Pelargoniums, Fuchsias, Myrtles would sooner have become rooted plants if we could have let them alone, but in our beginnings we were everlastingly at them, examining what they were doing below the soil or sand, and with what results

may easily be imagined. The same thing took place when we potted off struck plants in small pots. We were constantly at them, turning out the ball to look at the first white spongiole that found its way to the side, and thus often impeded growth. In all this we may have failed to say a word to meet your case, but it would give us great pleasure to be able to assist you in any way as far as we could.—R. F.]

NOTES AND GLEANINGS.

The schedule of the prizes offered by the Royal Horticultural Society, to be contended for at Oxford in July next, has been issued, and may be had upon application to the Assistant Secretary. The schedule of extra prizes offered on the same occasion by others will shortly be published. In it will be found prizes amounting to £10, offered by the Proprietors of the *Gardeners' Chronicle*, for the best collections of fruit and vegetables; and a prize of £10, offered by the Proprietors of this Journal, for dessert fruits combining excellence of quality with taste of arrangement.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Should frosty weather set in, wheel-out manure to all vacant plots of ground, where heaps may be made and covered with soil till wanted. In many cases, however, it may be trenched-in at once, especially where Carrots, Parsnips, Beet, and Onions are to be grown. All these require to have the soil turned-up some months previous to sowing-time. If dry leaves are plentiful, they may be laid very thickly between rows of choice *Broccoli*, and confined there by sticking-in birch boughs round the outside of the beds. Snow's Winter Broccoli which comes in at this season, if the weather is mild, should be taken up and protected whenever the heads are large enough for use. Great attention must be paid to *Cauliflowers* in frames and under hand-lights; stir the surface round them in mild weather, and give frequent dressings of dry soot, lime, and ashes, taking care also to admit air whenever practicable. Cover *Celery* with dry litter to protect it from frost. Continue to store-up any of the late-tied *Endive* and *Lettuces*, and see that those formerly stored have as free a circulation of air as the weather will permit. All the late *Cabbages* and *Winter Greens* should be earthed-up if not already done. Sow small *Salading* under cover, and protect Turnip *Radishes* in frames. Attend to keeping-up a supply of *Asparagus*, *Sea-kale*, *Rhubarb*, &c., according to the demand and convenience, by introducing quantities of the roots into heat at intervals of about a fortnight. Also see to keeping-up a supply of *Dwarf Kidney Beans*, by making frequent sowings under favourable circumstances. They are generally grown in pots placed in vineries or plant houses, but their liability to the attacks of red spider renders them dangerous inmates of such structures, and where it can possibly be done they should be planted in lines in the bed of a pit devoted to their culture.

FRUIT GARDEN.

Where orchard trees are infested with insects or moss, the bark should be well scraped with a blunt tool to remove as many of the larvæ of the insects as possible, after which the parts should receive a coat of the following composition—viz., hot lime and soot in equal quantities, mixed with water from the cowhouse until it attains the consistency of thick paint. This composition should be well rubbed into the crevices of the bark in order to make sure of its reaching every hiding place of the enemy, and if a little cow manure were worked-up in the composition, it would be useful in causing it to adhere better. It is a tedious task to properly cover old large trees with this, but its effect in clearing them of insects will repay the trouble, and an occasional coating to young trees will be useful in keeping them clean. Gishurst compound applied as a strong lather is also recommended for the same purpose. Strawberries may now be placed in a pit or frame where the temperature can be kept at about 45°, giving plenty of air whenever the weather will permit, and if the pots can be plunged in a gentle bottom heat, this will be advantageous in encouraging a healthy root action.

FLOWER GARDEN.

Wheeling can be more expeditiously and cheaply carried on in frosty weather than when the surface of the ground is soft; hence, where wanted, fresh soil or manures should be put upon the flower beds and borders. Shrubberies may also be thinned, where this involves only the cutting-out of overgrown plants or lopping deciduous trees, but where evergreens generally require pruning it is best done in March, for although when the winter proves mild such work may safely be performed at any time, it is never safe to depend upon this.

GREENHOUSE AND CONSERVATORY.

In frosty weather be satisfied with as low a night temperature in all plant houses as will be safe, taking advantage of bright days to increase the temperature, and using a little fire heat to dispel damp. The proper night temperature for conservatories very much depends upon the kind of plants they may contain. Where Camellias, Epacrises, Heaths, and other winter-blooming plants form the principal inmates, 40° will be sufficiently high, and with a dry atmosphere it may safely be allowed to sink a few degrees on hard nights, but in cases where the hardier kinds of winter-flowering stove plants are brought in while in bloom, 45° should be considered the proper mean night temperature. Let whatever watering may be required be done early in the day, so that advantage may be taken of sunshine whenever it may occur, to give air for the purpose of drying the foliage, &c. Many persons appear to entertain an opinion that very little attention is needed to properly supply plants with water at this season, and they look over their stock at intervals of several days. We would, however, caution young gardeners against this mistake, and advise them to examine every plant at least every alternate day, deferring the application of water until it is really required, and then giving a liberal soaking. Attend daily to the removal of dead or decaying leaves, and directly any of the flowering specimens become shabby remove them to some out-of-the-way place, taking care that they are placed under proper conditions as to temperature, &c., according to their wants, and supply their places with others in full beauty. Where necessary, the leaves of plants should be sponged over and thoroughly cleaned, and climbers pruned, trimmed, and put in proper order for the spring. Soils, crocks, and charcoal, and whatever else may be necessary for potting, should be in readiness for use when wanted. Let heat be applied to all plant structures moderately for a time; do not, because the weather may be severe, apply constant parching heat, let the heat be moderate with humidity, very moderate at night, and on light days when air can be admitted without injury a little additional heat may be employed. Always regulate the night temperature by the degree of external cold. Do not attempt to maintain the same degree of internal heat to any structure when the temperature is below the freezing point, as you would were it 10° or 15° above freezing. It is in many cases difficult to maintain a sufficiently moist atmosphere without causing drip, as the moisture in the house becomes condensed upon the glass, and unless provision be made by means of inside gutters and pipes to catch the condensed moisture and carry it off, it is nearly impossible during frosty weather to preserve the beauty of the flowers for any length of time; and in cases where there is no provision made against this kind of moisture falling upon the plants, the temperature should be kept as low as may be consistent with safety, avoiding moisture in the atmosphere as far as possible whenever the glass is affected by frost.

COLD PITS.

Where the stock of bedding plants has to be wintered in structures of this description, the present will be found a trying time, and the utmost vigilance and care will be required to preserve the plants from harm. Apply sufficient covering to the glass and to the walls of the pits or frames to ward off the effects of the most severe frost, and embrace every chance of admitting fresh air and removing decaying leaves in order to prevent damp and mould. Too little water can hardly be given at present to plants in cold frames; and when it becomes necessary to give any, let it be done in the morning of a fine day, freely admitting air afterwards in order to dry up all superfluous moisture before evening. Plants when covered up for several days should not be suddenly exposed to bright sunshine, but should be partially shaded for a few hours, admitting air in the meantime if the state of the external atmosphere will admit of it. This will dispel damp and greatly assist in preventing the injury which might otherwise result from sudden exposure to sunshine. Look frequently over everything subject to the attacks of mildew, apply sulphur the moment this pest makes its appearance, and see that everything is perfectly free from insects. Anything of which there is but a short supply of plants to propagate from, should be placed in growing quarters at once, taking care to keep the plants near

the glass and free from insects, &c., for softwooded plants in heat at this season are very subject to the attacks of insects.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

As during the finest days we were engaged on some extra ground work, very little has been done out of doors, as the heavy rains were unsuitable for digging and trenching; and, in truth, from the crops in the ground, until we get Celery, &c., off, we have but little unoccupied space to go to. As stated last week, however, such work may be proceeded with where work of other kinds is at all scarce. For wet days we have plenty of work in washing, cleaning, glazing, stake and stick-making, tally-cutting, &c. We do not complain much of slugs, grubs, snails, &c., mild though the weather now is, but alike to exposed and protected plants mice have been very troublesome. They seem to eat out the centres of young Cauliflowers, Pinks and Carnations, Strawberry plants in pots, &c., as much for the pleasure of being mischievous as anything else, as on examining the débris, almost the whole is left behind.

Stirred the ground amongst young Cauliflowers, Lettuces, and Cabbages when dry enough to do so, and placed cones of burnt earth and ashes over Artichokes, Sea-kale, &c. This protects the exposed heads of Sea-kale, not so much from frost, for it is hardy enough, as from birds and mice, as without protection we have had the large plump buds picked out by blackbirds and thrushes, and rats and mice. None of them care about putting their bills or noses freely in such material, and for this purpose the burnt earth and rubbish seem to be more effective as deterrents in proportion to the alkaline matter from burnt weeds, burnt remains of vegetables, &c., contained in the heap. In proportion to the amount of saline matter, also, do slugs, &c., keep aloof from it. The very fact of the combustion makes all such earth unpleasant to them.

FRUIT GARDEN.

This week we must merely refer to previous numbers and the excellent remarks of Mr. Keane. We moved a lot of plants to one side of one of our orchard houses, and were thus enabled to give the trees and walls a good syringing with water nearly at the boiling point, using a thick cloth for the hand resting on the middle of the syringe. Of course such water becomes considerably cooled before reaching the twigs of the tree, but still it is hot enough to kill the eggs of most insects, and any live insects themselves. This syringing will be repeated several times. We never knew an instance in which this *hot-water syringing* did any harm to deciduous trees when in a dormant state. Washing, scrubbing, and even painting with compositions with brushes, often injure the buds, even by unsettling them or unfixing them a little, making them liable to drop afterwards, and some of the mixtures for painting twigs, &c., require themselves to be used with care, as when very strong they are dangerous. In many gardens it is difficult to obtain hot water, as we have ourselves experienced. We have been obliged to borrow often from hot-water pipes—a mode of proceeding which is attended by several drawbacks. Hot water is so valuable for watering and cleaning, that were we to have a general garden as a commercial undertaking, we would make sure of having a little boiler to yield pure hot water at will. We could then easily add soap or whatever was necessary to it. With plenty of this at command we should have less trouble from insect enemies, and less occasion to use smokings, powders, and mixtures. Hot water on all deciduous plants in a state of rest is the safest and best insect-preventive. Warm water may well be used at times even on a growing plant; but in such cases a caution must be taken that the water is not too hot. We have often used it as high as 120° or 130°, and a little more, and with none but beneficial results. We would not think of doing so to a plant completely free from insects, but for soft-skinned insects a forcible syringing with such warm water was as effectual as washing with some nasty mixture, or smoking with tobacco in any of its forms.

ORNAMENTAL DEPARTMENT.

Besides potting, encouraging bulbs, helping on Roses, as alluded to lately, we have begun giving a general clear-up, sweeping and rolling the pleasure grounds. Tree leaves, like other refuse, are most valuable in their own place, but they cause melancholy feelings as they drift dead and decaying on the green lawns. There will be enough of the saddening, and, we trust, of the truly heartfelt practical sympathising with sorrow and trouble in these days, without decaying leaves obtruding too near the cheerfulness of Christmas times. The weather on the whole has been so mild, that the grass in many places had grown so much as to need a slight sweep with the scythe before being followed by the broom and the roller. The sweeping was done much more easily and better in consequence. Lawns should never be mown now or in spring if there is the slightest crust of frost on them. It injures them greatly, often kills the best grass outright, and at other times takes them months to put on their full green livery. A chop-over thus late with the scythe or machine, if done in mild days or mornings, often answers better than doing it early in spring, as the lawns do not suffer from the parching east winds of March, but a continuous rich green is maintained all the winter and spring, until it becomes necessary to give the first general cutting or mowing.

Let me conclude by observing the pleasure which it would give me to see, if not shake hands with our older readers, with whom I have been privileged to hold an unbroken weekly communication for so many years, and at least be permitted to express my earnest hope, that all connected with "our Journal," in whatever way, may experience in this hallowed period of the year, that the source of their happiness is more lasting than even our evergreens.—R. F.

COVENT GARDEN MARKET.—December 22.

We are not able to obtain any advance in prices on former quotations, the market being heavily supplied. The chief demand is for rough goods and Christmas evergreens.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples ..... ½ sieve	3	0	to	5	0	Mulberries .... quart	0	0	to	0	0
Apricots ..... doz.	0	0		0	0	Nectarines ..... doz.	0	0		0	0
Cherries ..... lb.	0	0		0	0	Oranges 100	6	0		12	0
Chestnuts.... bushel	8	0		14	0	Peaches ..... doz.	0	0		0	0
Currants .... ½ sieve	0	0		0	0	Pears, kitchen .. doz.	2	0		3	0
Black ..... do.	0	0		0	0	dessert .... doz.	3	0		5	0
Figs ..... doz.	0	0		0	0	Pine Apples ..... lb.	8	0		5	0
Filberts ..... lb.	0	6		1	0	Plums ..... ½ sieve	0	0		0	0
Cobs ..... lb.	0	6		0	9	Quinces ..... doz.	0	0		0	0
Gooseberries .. quart	0	0		0	0	Raspberries ..... lb.	0	0		0	0
Grapes, Hothouse .lb.	3	0		6	0	Strawberries .... lb.	0	0		0	0
Lemons 100	6	0		10	0	Walnuts .....bushel	10	0		16	0
Melons ..... each	2	0		3	0	do. 100	1	0		2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0	Leeks ..... bunch	0	4	to	0	0
Asparagus 100	0	0		0	0	Lettuce ..... score	1	0		2	0
Beans, Runner ½ sieve	0	0		0	0	Mushrooms.... pottle	1	0		2	0
Broad .... bushel	0	0		0	0	Mustd.& Cress, punnet	0	2		0	0
Beet, Red.....doz.	2	0		3	0	Onions ..... bushel	3	0		4	0
Broccoli .....bundle	1	0		1	6	pickling .. quart	0	4		0	8
Brus. Sprouts ½ sieve	3	0		0	0	Parsley ..... sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0	Parsnips ..... doz.	0	9		1	0
Capsicums 100	0	0		0	0	Peas ..... quart	0	0		0	0
Carrots.....bunch	0	4		0	8	Potatoes .....bushel	2	6		4	0
Cauliflower..... doz.	3	0		6	0	Kidney.... ditto	3	6		4	6
Celery..... bundle	1	6		2	0	Radishes doz.bunches	1	0		0	0
Coleworts ..doz.bchs.	2	0		4	0	Rhubarb..... bundle	0	0		0	0
Cucumbers .... each	0	6		1	0	Savoys..... doz.	1	6		2	0
pickling .... doz.	0	0		0	0	Sea-kale ..... basket	3	0		4	0
Endive .....doz.	2	0		0	0	Shallots ..... lb.	0	0		0	6
Fennel .....bunch	0	3		0	0	Spinach ..... bushel	2	0		3	6
Garlic ..... lb.	0	8		0	0	Tomatoes ..... doz.	2	0		3	3
Herbs ..... bunch	0	3		0	0	Turnips ..... bunch	0	4		0	8
Horseradish ..bundle	3	0		5	0	VegetMarrows. ..doz.	0	0		0	0

TRADE CATALOGUES RECEIVED.

Weeks & Co.'s "Gardeners' Pocket-Book" is given to gardeners. Although the object chiefly aimed at by the firm is to draw attention to their hot-water apparatus, yet the pocket-book deserves much commendation, for it contains tables useful to gardeners, an almanack, and a diary.

Sutton & Sons, Reading.—*Suttons' Amateur's Guide and Spring Catalogue for* 1870.

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books *Cordon*).—"Cordon Training" by T. C. Bréhaut, is published by Messrs. Longman. (*W. S.*).—The Rev. S. Reynolds Hole's volume is called "A Book about Roses." The price is 7s. 6d., any bookseller will obtain it for you. (*G. Coombs*).—We do not know where you can obtain numbers of Paxton's "Magazine of Botany." It ceased to be published twenty years since. You will find "The Florist and Pomologist" an elegant and cheap pictorial monthly, with beautiful coloured plates of all the new plants.

Florist's Business (*Y. Z.*).—Judging from your letter, we conclude that you have no acquaintance with such a business, and, if so, you had better let the seven houses and land. We cannot advise you, not know-

ing anything of your neighbourhood, objects, or acquirements. If you enter into the business, your best guide will be to do as the most successful florists and market gardeners in your vicinity do.

Late Pears (*Wyeside*).—Beurré de Rance will do well on a wall, and comes in after Josephine de Malines. Doyenné d'Alençon, or, as it is usually called, Easter Beurré, and Bergamotte Esperen, will do well on a wall.

Dark Hybrid Perpetual Roses (*Inquirer*).—Black Prince (W. Paul) and Horace Vernet, or Pierre Notting.

Cucumbers Bitter (*Cucumis sativus*).—The cause of Cucumbers being bitter is their not being grown quickly. When grown in a temperature of 65° at night, and 70° or 75° by day, they rarely are bitter. Very often they are bitter from being allowed to grow to a great size, whereas they should be quickly grown and cut whilst young.

Blackberries (*Berkhampstead Subscriber*).—The common Blackberries are not worth introducing to gardens, but, if they are desired, now is a good time to transplant them, selecting the smallest plants. The ground should be trenched, working in a liberal quantity of manure. Rather light, well-drained soil is best. Plant them in lines 6 feet apart, and 3 feet from plant to plant. The canes may be trained to stakes in a similar way to Raspberries. The Lawton and Dorchester Blackberries are far better than the common sorts, bearing much larger and better-flavoured fruit. There is a new variety from France, the Rochelle, said to be even superior to the Dorchester and Lawton. The latter we have grown very fine, and we find them useful for tarts, &c., in autumn, for they bear until frost stops them. For covering low walls, palings, or anything unsightly, they are both useful and ornamental, requiring but little attention.

Protecting a Vine Border (*Another Amateur*).—By covering the border with the frame you will be able to ward off wet, which it is desirable to do in winter, as well as to secure a considerable amount of warmth, by keeping the frame closed at night, and in dull, cold weather. It would be a good plan to keep it on until May. From this time till then it may remain closed, except that after March the lights may be drawn off on fine days, and to admit gentle rains, using them for protection from frost, and to keep off heavy continuous rains. In severe weather a covering of mats or other material, in addition to the lights, ought to be given, so as to prevent the border from freezing, or you may mulch it with 3 inches of short littery manure. This would act both as a protection to the roots against frost and as a manure, the lights keeping the border from becoming saturated with rain.

Time of Grapes Ripening (*Wm. Hilloak*).—The Vines you mention, Alicante and Child of Hale, will ripen their Grapes at the same time, and under the same conditions as Lady Downe's.

Melons and Celery (*J. W. C.*).—For frame culture no Melon surpasses Beechwood, and for exhibiting, Meredith's Hybrid Cashmere, though we find few Melons equal Beechwood if true. Of Celery, Manchester Red is good for a general crop, and for its keeping qualities incomparable White. It is, undoubtedly, the best white Celery in cultivation, either for early or late use.

Vines from Eyes (*Idem*).—The Vines from eyes in 4-inch pots should now be cut back to two eyes, have the soil shaken from the roots, and be potted in the same size of pot. When the Vines begin to grow, transfer them into larger pots as those they are in fill with roots, and by June, if encouraged with a gentle heat and moist atmosphere, they may have their final shift into 9 or 11-inch pots. By autumn they will be strong canes, fit for planting out next spring but one, or they may be fruited in pots, taking care to have the wood thoroughly ripened.

Vine Propagation from Eyes and Cuttings (*Con amore*).—The canes intended for propagation should, at the time of pruning, be reserved, and be kept with the ends in moist soil until the end of January, when the eyes should be prepared for insertion. From the back of each eye make a cut with a sharp knife slopingly upwards, bring it out about three-quarters of an inch above the eye, and on the same side as that on which the eye is situated; a similar cut is made downwards, and then the eye is ready for insertion in a 4½-inch pot, laying it horizontally, eye upwards, and covering with about half an inch of fine soil. The soil should be moist, but not very wet, and should always be kept moist without being made so wet as to become sodden; the pot to be plunged in a bottom heat of 80° to 90°, and not less than 70°, with a top heat of 60° to 75°. In this the eye is to be kept until it has made a shoot nearly a foot long, when it may be transferred to a pot 7 inches in diameter, replacing it in the hotbed, which at this period should be at 70°. By June the Vine will demand a pot 11 inches in diameter, and with liberal treatment in the way of moisture and heat, will make a strong cane by September, probably capable of bearing a good crop next year in a pot, and it will do for planting. Without bottom heat the eyes should not be put in until March, and even then a slight bottom heat is necessary, removing them to a greenhouse when the heat in the hotbed declines, or when they interfere with the growth of the other occupants by becoming too large. Cuttings may be of the last year's wood, with two, three, or more eyes, inserting them so deeply in the soil that the uppermost eye is only just level with the surface. The best cuttings, however, are those with 2 or 3 inches of the two-year-old wood, and one eye of last year's wood. Cuttings of greater length may be made, and be planted at once in the border, but the shorter they are the better, in our opinion, for the ultimate progress of the Vine.

Poinsettia pulcherrima Leaves Falling (*X. X. X.*).—It is a result of imperfectly-developed growth. The plants should be grown in small pots, and be kept in a light, airy position, and near the glass during the summer. They are roasted and stewed in summer; when autumn comes they are dried and starved, and the leaves fall, nothing being more ungainly than this plant badly grown, though, when well grown, very fine for decorative purposes. It requires a cool stove, and may succeed in a warm greenhouse if the plant be kept dry in winter. The soil should be kept moist, but not excessively so, even when growing. In winter give little water, only enough to keep the wood from shrivelling. The Mandevilla suaveolens we should plant out in a border. It would be less troublesome as regards watering, and would make freer growth and better foliage.

Dressing Orchard-house Trees (*An Amateur*).—Though the trees are apparently free from insects, it is desirable to dress them when at rest, for the Peach aphis is apt to be very active even in winter, and the winter dressing is an excellent destroyer of scale. We consider 8 ozs. of soft soap, 8 ozs. of tobacco powder, and 2 lbs. of sulphur to two gallons of water, make an excellent wash. It should be boiled in a pot over a gentle fire for ten minutes, stirring it all the time, and when cooled to 120° it may be applied to every part of the trees with a clean paint brush, rubbing it into every crevice, and taking care not to dislodge the buds. This should be done in mild weather, and the sooner the better. In dressing Peach and Nectarine trees, care must be taken to draw the brush upwards, not downwards, otherwise the bloom buds are liable to be displaced.

Fig Propagation (*Yorks*).—The best time to propagate Figs is in January, or the beginning of February, if you have a good heat of from 70° to 75°, and a bottom heat of 80° to 90°; if not, defer it until the beginning of March, or until you have a bottom heat of not less than 75°. They are best raised from eyes of last year's wood, which may be inserted either perpendicularly or horizontally in the pot, and should be covered about half an inch with light soil. Keep them moist, but not very wet, and in a brisk bottom heat the eyes will soon make good shoots and roots. They should be inserted singly in 3-inch pots, and when rooted may be shifted into larger pots, and forwarded in gentle heat. Cuttings will also root freely, taking off shoots close to the stem, inserting them two-thirds of their length in the soil, and plunging them in a bottom heat of not less than 70°. Plants from eyes are ultimately the best, but those from cuttings become larger in less time. For cuttings, we like the short stubby shoots produced near the base of the tree, and of one year's growth only. We have fruited these in the year they were put in.

Praise (*A Second Gardener*).—All that you say is true, but would be out of place in our columns.

Briar Cuttings (*Julia*).—It is very likely that cuttings of the Dog Rose or Briar would strike root freely if now put in, though November is a better time. The cuttings should be of the well-ripened wood of the current year, cutting the shoots into lengths of about 10 inches, removing the eyes for two-thirds the length of the cuttings, so as to prevent the eyes below the soil from throwing up suckers. Insert them two-thirds their length in the soil.

Destroying Mice (*Eve*).—The best means of preventing mice devouring Crocuses in the open ground is to set a few traps baited with a small Crocus bulb. The common brick or figure-of-4 trap will be found the most serviceable. Set the traps near to where the Crocuses are attacked, closing up the holes, and remove every part of the roots brought up and partially devoured by the mice.

Gesnera zebrina Compost (*A Lady in Cheshire*).—Two parts fibrous loam, one part leaf soil or old cow dung, and one part sandy peat, with a free admixture of sharp sand. The pots should be well drained. We have known the roots destroyed by too-powerful doses of liquid manure.

Melons and Cucumbers in the Same Frame (*E. E.*).—You cannot well grow both in a two-light frame, for when Melons are setting and the fruit ripening they require a drier atmosphere than is suitable for Cucumbers, which at all times need a moist atmosphere to secure a succession of crisp good-flavoured fruit. By having a boarded partition you might have Melons under one light, and Cucumbers under the other, and then you could grow both, for they require but little variation in the soil and bottom heat. It would be much better, however, to grow them in separate frames. Beechwood (true), is one of the best, if not the very best of green-fleshed Melons in cultivation. It is the best hardy frame Melon.

Melon for Preserving (*E. E.*).—Bignell's Scarlet Flesh is an excellent kind for preserving. Conquerer of Europe is another good sort, and pale green in flesh.

Planting Strawberries and Fruit Trees (*A Poor Lady*).—You may next March procure runners of this year that have been put out in nursery-beds, and, by moving them with good balls, and carefully planting and attending to them with water, you may have a moderate crop next June or July. For cropping Rivers' Eliza is better than Sir Joseph Paxton, but it is not so early as the latter. The former, for its heavy cropping qualities, ought to be in every garden. You may probably obtain plants in small pots, and those put out early in March would give you fruit next year, or the summer of planting. February, during mild weather, will be a good time to plant the fruit trees, but they may be planted now, though we consider midwinter about the worst time in the year, especially in cold wet soils, and during wet weather when the ground is very often nearly mud. Court of Wick and Sturmer Pippin are two good winter dessert Apples. Two Plums for standards are Diamond and Perdrigon Violet Hâtif. Planting Rhubarb from now until March will afford a supply of stalks next spring, but to do well it ought to be little cut from the first season.

Compost for Chrysanthemums (*A Constant Reader*).—Two parts loam from rotted turves, and one part leaf soil or old cow dung not less than a year old, with a free admixture of sharp sand, will grow them well. Hard potting after the plants or cuttings are struck should be practised, as it prevents lanky growths, and keeps the plants stiff, shrubby, and short-jointed. The Primulas we should think are very fine. Being good in foliage, with large, well-bloomed trusses nicely elevated above the foliage, the plants examples of good cultivation, they certainly would be fit for exhibition, but though size of bloom is a merit, other considerations are of equal moment.

Desfontainea, &c. (*E. M.*).—Any of the principal nurserymen who advertise in our Journal could supply you.

Cider Apples (*Coventry*).—The delay has arisen from our applying for trustworthy information. You will see a reply in our Journal to-day. The Normanton Wonder is only another name for Dumelow's Seedling. Being very juicy and rather aromatic, it would produce probably a good cider.

Atmospheric Moisture in Vineries (*Amateur*).—In a long answer to a correspondent, you will see that atmospheric moisture for Vines is pretty fully considered. One thing is there omitted—the impropriety of syringing or watering pipes or flues to obtain a moist vapour. That plan is very fitful in its operation, and besides that, there are other objections, such as obtaining vapour at times too hot to be suitable to plants near it. The best plan for securing atmospheric moisture is to have evaporating vessels made of zinc, tin, or cast iron, to fit on the pipes or flues; then the vapour will be in proportion to the heat. Some time ago we alluded to the importance of the fixing accurately. Some vessels, 2 feet in length, with a semicircular form beneath to clasp the pipe, we

found bedded in a thin layer of white lead at the two ends merely, and they took double the time to evaporate the water placed in them which similar vessels did that had received a bedding all their length: hence such evaporating troughs cast on the pipe are better than any merely placed on it, though bedded. These evaporating vessels should always be placed on the flow pipes. Your proposed mode of wrapping sphagnum moss tightly over the lower or return pipe, and sprinkling such moss twice a-day with water, would only be just better than sprinkling the pipes at once now and then. We know that many hold a similar opinion to that which you entertain—namely, that thus the pipes would send off more heat by evaporation continually going on. With all respect, we do not agree with you, for first, as shown some time ago, the more evaporation proceeding from a surface the more will that surface be cooled. Then, secondly, unless you water the moss-covered pipes more than twice a-day, the rising of vapour will not be continuous, for as soon as the moss next the pipes becomes dry, the dry moss will act as a non-conductor of heat, and if the moss is at all thick, the outside layer, though damp, will emit little more vapour than if the moss were laid on the ground near the pipes; and lastly, when the moss gets dry round the pipes, the pipes themselves may become hot, but the heat will not be radiated freely into the house.

NAME OF FRUIT (*J. Bryan*).—Your Apple is Coe's Golden Drop.

NAME OF PLANT (*J. E.*).—That which you enclosed is not the seed, but part of the seed-vessel, of the Honesty, Lunaria biennis.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 21st.

DATE.	BAROMETER.		THERMOMETER.				WIND.	RAIN IN INCHES.	GENERAL REMARKS.
			AIR.		EARTH.				
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 15	29.660	29.389	51	30	43	42	W.	.00	Boisterous; boisterous and stormy; clear and fine.
Thurs. 16	29.721	29.625	55	37	43	42	S.	60	Cloudy but fine; densely overcast; boisterous with rain.
Fri.... 17	29.796	29.544	53	37	45	43	W.	.03	Clear and fine; very fine; overcast, cold wind.
Sat.... 18	29.502	29.351	56	40	46	43	S.W.	.06	Drizzling rain; densely overcast; boisterous.
Sun... 19	29.353	29.255	54	28	48	45	W.	.00	Very fine; cloudy but fine; stormy at night.
Mon... 20	29.552	29.460	51	25	45	44	S.W.	.30	Clear and frosty; very fine; clear, rain at night.
Tues.. 21	29.366	29.276	41	32	44	43	N.W.	.40	Rain, dense fog; heavy rain; cloudy and cold.
Mean..	29.564	29.414	51.57	32.71	44.86	43.14	...	1.42	

POULTRY, BEE, AND PIGEON CHRONICLE.

COMMITTEEMEN EXHIBITING.

THE question of committeemen being allowed to exhibit, which has been so much discussed lately, is a most important one; and in adding a few words in support of the views of "ALIQUIS" and others I would suggest that the matter should be regarded, not with reference to the interests or wishes of exhibitors, committeemen, or any mere individuals whatever, but to the general and most lasting interests of the poultry fancy itself. Individuals may be dissatisfied, or may even be really aggrieved; but there are many things to be considered ere it is concluded as best on the whole for officers to be prohibited from competition; and this large view of the question, it appears to me, "EGOMET" and others have somewhat lost sight of.

One of these things was touched upon by "AN OLD COMMITTEEMAN," when he mentioned the effect of such a rule at Bristol or Birmingham, in a way the force of which was evidently felt by "EGOMET." Let me recall his argument, but in more definite terms. Suppose at Birmingham Mr. Mapplebeck's and Mr. Tomlinson's Buff Cochins had been debarred from competition; suppose at Bristol the Spanish of Messrs. Lane, Parsley, Roué, and Jones must have stood aside; suppose at Beverley, Middleton, Whitehaven, and the Yorkshire shows, various well-known yards of Game, Bantams, and Hamburghs could not compete, I think it cannot be denied that at these shows an inferior standard of beauty would be held up for imitation, and beginners and others would not have before them a true idea of what perfect birds should be. To put this into general terms, that in every place the best birds should be shown and should win, seems to me, if poultry-keeping be not a mere useless hobby, to be of all points the most important of all; and if it be lost sight of, the effect in the end must be that localities now celebrated for certain breeds will lose their pre-eminence from want of a true ideal, for the same exhibitor seldom continues beyond a certain period; and if the *new men*, which are the life of the fancy, cannot see the best models it needs no prophet to foretell the result.

"EGOMET," however, replies to this that the breeders in question should withdraw from the committees, and that there are "plenty of others capable of taking their places." From personal knowledge of the two principal shows named I can say that this is a mistake; that it is the actual breeders of poultry who, as a rule, are the life and soul of a committee; and that with regard to the Bristol Show, it would never have been attempted but for the first determined efforts of a few exhibitors alone. I repeatedly notice that in most cases the withdrawal of a name from the ranks of exhibitors is followed by retirement from committees also—there is a case at Bristol this very year; and careful and extended observation of many schedules has convinced me that only fanciers and exhibitors are likely, or even able, permanently to do the real work of a show.

Finally, I may state that since this discussion commenced I have taken the trouble of asking many members of several important committees, who all assure me that in point of fact they themselves would not only resign their office, but their committees would totally break down, were such a rule attempted to be enforced.

I think, further, that with the best of our judges no dissatisfaction would ever arise. Fancy any committeeman "trying it on" with Messrs. Hewitt or Teebay. I think I see him do it! Everyone knows the readiness of those gentlemen to oblige where they can, but everyone knows too, or may know if he only try, that such an attempt would only succeed in "blackballing" even the finest pen in the world. To suppose any of the recognised judges, as they may be called, capable of such criminal weakness is not only an insult, but is tantamount to confessing we may as well refuse to show altogether, for others besides committeemen can "work the oracle" at a poultry show. Have good judges, and we shall—bar occasional mistakes which must occur—have good awards.

Yet there have been glaring cases. It is of no use to deny this; and the question is, What is the remedy? I reply without hesitation, Systematic, fearless exposure. No need of strong language; simply state the facts—*e.g.*, "At —— Show last week a member of the Committee named —— took —— prizes evidently not deserving them. He was seen to converse with th Judge, who was Mr. ——." This carried out regularly woul soon answer all needful ends. It is well to remark, however that a committeeman may deservedly win many prizes, and an angry competitor will do well to obtain disinterested opinion ere he makes complaint. But if he be clearly in the right no judge —for it must be really him with whom any actual guilt lies—could stand repeated exposure of such falsity to his trust.

One word finally. I was much struck with "EGOMET'S" refusal to consider "ALIQUIS" as an "opponent." It did me good. I shake hands with him mentally, and may his health be eaten in every fowl killed between now and Christmas! I really do think the fancy is "looking up" when good men and true—kindly, hearty, Christian gentlemen, meet round the centre line of "our Journal" pages, and in good fellowship and good will discuss earnestly all that bears upon the pursuit they love so well. The best interests of the fancy are what we all have at heart, and in the end will come out benefited by all that thus takes place. It was so, for instance, in the trimming business. In prominently ventilating this subject last season I manifestly injured my own individual interests in every way; yet I got many hard knocks, and views and opinions were freely fathered upon me which I never penned. I am not prepared to say no word escaped me which I would wish recalled; but in a great measure the object was gained, and I have the pleasure of knowing now that some of the judges, at first naturally irritated by what they thought intended for censure upon them, have long since given me credit for very different feelings, and learnt to rejoice that the question was brought forward. It will be the same in this discussion. What is mistake on either side will pass away to be forgotten, but all that is good will remain for the prosperity of the fancy and for the benefit of us all.—L. WRIGHT.

MORE TIME FOR JUDGING.

IT is high time that the committees of management of poultry exhibitions should make arrangements for the judges to have

more time for examining and awarding prizes, and that the judges should not be inconvenienced by the admission of the public during the time they are going round. It is doing great harm to our shows, for exhibitors are losing confidence in the decisions made so hastily, in consequence of which many valuable specimens are not shown. Complaints are daily to be heard respecting birds having been overlooked, and inferior specimens having obtained prizes or commendations.

I do not think the judges are to blame, for how can any person, however experienced or qualified for the business, make a true and impartial selection in so brief a space of time?

In two shows lately, for example, supposing each pen of birds to have received its allotment of the time taken by the judges in their round, forty-five seconds were occupied; and at another recent show each pen on the average must have obtained twenty seconds. Cannot some arrangement be made, so that the judges may give more time and be quite undisturbed in making their awards?—Aliquis, *Chesterfield.*

ANNALS OF MY POULTRY YARD.

Reinette is dead! and I have to mourn, not only the loss of a beautiful Sebright hen, but over the barbarity of her companions. The three spent last year in peace and harmony in one pen, and were cherished and admired to their hearts' content, which is saying much considering how much admiration is required to content the heart of a Bantam cock. Well, time went on, and matronly cares occupied Reinette and Jeanette; and though they were not fortunate in bringing up a large proportion of the lovely chicks which were hatched by them, each was exemplary in the fulfilment of all her duties of hen-life. Again the seasons rolled on, and the Comte de Morny, Reinette, and Jeanette were put into their old quarters; but in lieu of peace and harmony came strife and persecution. Reinette was pecked and driven from her food, first by Jeanette and then by the Comte, whose vanity I verily believe made him a ready follower of Jeanette in her wicked practices. I was careful to give the poor little queen a good meal whenever I had time to go to her, but that was not always; and her share of sorrow was so much greater than her mede of kindness that she broke down, as others of her sex have done under like trials.

We returned from the world's great poultry show (I and the bird-fancying part of my family), and were shocked to hear, of course before any pleasant news could reach us, "Reinette is dead!" Then my "man Friday" said, "There, ma'am, I found her, standing like a poor penitent in the corner of the house, dead." We were all sorrowful, and to some of us tears came, because only on our journey homewards had we said, "To-morrow Reinette shall be put into another house, for the Comte de Morny and Jeanette will never be kind to her again." Alas, too late! And I marvel that a tiny bird, once gentle and loving to his little hen, should have been weaned from his allegiance and turned from his cherishing by the machinations of another, precisely as one has seen in bipeds of higher standing, though not of higher *under*standing, it may be.

Cruelty I have ever held in abhorrence whether in man or beast, and as long as I can remember I have waged war against it. Hence I confess to feeling almost revengeful now, and to wishing that I may "find a Tartar" to replace the poor little murdered bird, for I am at a loss to devise other punishment for the Comte de Morny and his wicked mate.—W.

PRIZES FOR FRENCH VARIETIES OF FOWLS.

In a recent number of "our Journal" I read that committees of poultry shows were willing in general to establish separate classes for the French varieties, conditionally that fanciers of those varieties would either guarantee a certain number of entries in such classes, or offer silver cups as first prizes. The guarantee plan would not, I think, "take with the public," as it might be difficult to ensure a sufficiency of entries unless the prizes offered were liberal, which has not usually been the case at those poultry shows where classes for the French varieties are already established, and there would certainly be a difficulty in finding guarantors. The cup scheme seems more likely to succeed if exhibitors and breeders will but amalgamate, and endeavour mutually to promote the common interests. I know that there are at least fifty exhibitors of Houdans in Great Britain whose names have appeared in the prize lists of "our Journal," and supposing forty of them willing to subscribe 10s. a-piece, four five-pound prizes might be offered, one at each of four poultry shows that might be selected, so as to suit the convenience of all persons concerned. For instance, if Halifax, Liverpool, Ipswich, and Southampton were, with the sanction of the respective committees, the shows agreed upon, Scotch, north-countrymen, Irish, Welsh, midlanders, southerners, together with the Isle of Wight and Channel Island fanciers, would all have an opportunity of competing for some one of the four prizes without having to send their birds an unreasonable distance from home.—H. Seymour Fraser, *Headley, Hants.*

MALAYS.

"Malays ought to show better in numbers and general merit," such is your verdict on this breed at Birmingham. Is not this rather harsh judgment? There were seven entries of old hens—five of these were noticed by the Judges. I do not write quite positively, but I do not think any other class of fowls at that Exhibition received an equal amount of commendation; This is at least a feather in the cap of the despised Malay. "These entries were more numerous years ago than they are now." Of course they were years ago; at almost every show there was a Malay class. Where are those classes now? I have often in your pages urged on the committees of our larger shows the duty of making classes for every known breed of any standing. I have urged this, because the variety of fowls is one of the charms and attractions to visitors, and because the plea of the entries not paying the prizes is not just, because in many of the other classes the entries largely overpay. Poultry shows profess to be for the encouragement of the improvement of domestic poultry. Truth compels me to add that the encouragement offered to Malays has been mighty small—perfectly microscopic. I think I am correct in writing that Birmingham is the only place that now offers the Malay a class—shall I call it an asylum? Bristol and Clifton, with its splendid prize list, ignores them—does it, or rather did it contemptuously, for at the show three years ago, when they opened them a class, there were eight entries. Was this a reason for withdrawing the prizes altogether the following year? And what was the result? One miserable pen was entered in the "Variety" class. Take again the new, and I trust permanent London show, where is the Malay class there?

In the face of these difficulties, and with the decreasing popularity of the breed itself, is it wonderful if they deteriorate? Is it not more wonderful still that any admirers of the Malay remain? I own there are difficulties in the way of keeping them. I admit they are not the most beautiful of our feathered friends, but certainly while the French breeds exist they are not the ugliest. They are not the most profitable, but on this score they deserve more credit than they obtain. They are in my humble opinion second to none for flavour on the table; and as to early laying, I have three out of six pullets this year now laying, and we are still a fortnight before Christmas.

A word on another subject—competing committeemen. I wish to simply say that I regret "Egomet's" strictures, and think that "An Old Committeeman" has much the best of the argument. Having never acted in that capacity, and being quite unwilling to try my hand, I say, Let them by all means compete, and then let the best pen win.—Y. B. A. Z.

MANCHESTER POULTRY SHOW.

Although, most probably on account of the numerous exhibitions now taking place, the number of pens was a little short of that of last year, the superior quality of the generality of the classes has certainly never been exceeded at any of the previous Manchester exhibitions. The same punctuality and perfection that have marked all the arrangements of the former meetings were as fully carried out on the present occasion, and the weather, though not so fine as could be desired, was upon the whole as favourable as could reasonably be expected at this season. It would be useless to enumerate the advantages of the Belle Vue Music Hall for the purposes of a poultry show, as few of our prominent exhibitors have failed to see them for themselves. We cannot, however, forbear to call attention to the excellence of the ventilation, the diffusion of light throughout, the liberal amount of space allotted to each pen, and last, though not least, the constant supervision and care personally bestowed by Messrs. Jennison on the very valuable specimens entrusted to them.

The *Dorkings* were remarkably good, the classes for hens and pullets especially so. Some remarkably good rosy-combed Grey Dorkings were on view, and the entry of White Dorkings was far beyond common. In the *Spanish* classes no previous Manchester show has equalled the late one, and although many of the adult cocks of this variety were scarcely in full condition, many of the best birds in the kingdom were easily recognisable. Most of the Spanish hens and

pullets, however, were in perfect plumage. The best show of *Cochins* which we have seen this season took place at Manchester, and certainly the Partridge-feathered were such as will only be seen together again at very long intervals. In the classes for Buffs and Cinnamons the exhibition was particularly strong; and in a class where most of the Buff birds shown were excellent, a Cinnamon cock of great size, and of very unusual colour and conformation, took the third prize. This valuable breed is now almost extinct, and it has not been prominently exhibited anywhere for some years past. Some of the most remarkable Buff Cochin hens and pullets that we have seen for many years were exhibited. The White Cochins were few in number, but they were such as might be looked for in vain at a long succession of our largest shows. The *Brahmas* formed some of the best-filled classes at Manchester, and the competition was excellent. The Dark-feathered ones were unquestionably superior to the Light ones, and as most of our greatest breeders exhibited, the task of the Judges in these classes was a most difficult one. The *Polish* were very good, and so were the *Hamburghs*, the best of the latter classes being the Golden-spangled, and the worst the Silver-pencilled ones. Of *Game* fowls, although the majority of the old birds were wonderfully good, those of this year's production were, as they have been everywhere of late, not in good sound plumage. Of the *Game Bantams*, however, the classes were unexceptionably good. We never remember seeing better Aylesbury and Rouen *Ducks* than competed here, and in large numbers; the Buenos Ayrean Ducks were also very fine. The *Geese* and *Turkeys* were such as called forcibly to mind Christmas-tide, when, all temporary dissents forgotten, whole families join together in happy reunions; and single birds, like those shown at Manchester, varying from 27 lbs. to 33 lbs. each, are well adapted for such festive occasions.

In the class for Waterfowl there was a most extraordinary competition, Shovellers being first, Whistling Ducks second, and Mandarins third. Such an assemblage of fancy water fowls is but rarely seen, and numbers of pens well worthy of prizes had to be allotted high commendations. In this class were exhibited Sebastopol, Spanish, Spur-winged, Brent, and White-fronted Geese; whilst a very numerous entry of Teal, Widgeon, Pochards, Tufted-Ducks, Shell-Ducks, Carolinas, Pintails, and other varieties made this one of the most popular classes in the Show. French fowls were shown in good condition, and added no little interest to the collection. A pen of very good Cuckoo Cochins was exhibited.

In *Pigeons* the Manchester Show as usual was very strong, and the collection of "Any other variety" embraced several quite new breeds. We were sorry to hear that some of the Pigeons had been grossly tampered with, both as to colour and improved (?) characteristics; we were informed that had these particular birds been left untouched their success would have been unquestionable. As then treated they were very properly disqualified. When will exhibitors learn, that Nature unadorned will best carry the day with judges of experience?

DORKING (Coloured, except Silver-Grey).—*Cock.*—1, Mrs. F. S. Arkwright, Sutton Scarsdale, Chesterfield. 2, W. Harvey, Sheffield. 3, J. H. Fielden, Walsden. *hc*, R. Wood, jun., Clapton, Thrapstone; E. Leech, Rochdale. *Hens.*—1, Mrs. F. S. Arkwright. 2, G. Clarke, Long Sutton. 3, J. Copp'e, Eccleston, Prescot. *hc*, R. Wood, jun.; T. Statter, Stand, Manchester. *c*, W. Harvey. *Cockerel.*—1, Mrs. F. S. Arkwright. 2, J. Copple. 3, Hon. H. W. Fitzwilliam, Wentworth Woodhouse. *hc*, S. H. Stott, Rochdale; H. Crossley, Broomfield, Halifax; Mrs. F. S Arkwright; J. Copple; R. D. Holt, Orrest Head, Windermere; T. Statter. *c*, A. Darby, Bridgenorth; T. L. Jackson, Bush of Ewes, Langholm; E. Shaw, Plas Wilmot, Oswestry. *Pullets.*—1, Mrs. F. S. Arkwright. 2, T. Statter. 3, J. Copple. *hc*, T. L. Jackson; R. Wood, jun.; G. Hellewell, Walkley; Mrs. F. S. Arkwright. *c*, F. Schofield; J. Crutchloe, Oswestry; T. Statter; Hon. H. W. Fitzwilliam; Miss Milne; J. Martin, Claines, Worcester.

DORKING (Silver-Grey).—*Cock.*—1, J. Statter. 2, T. Raines, Stirling. 3, Miss Milne, Otterburn. *c*, D. Parsons, Cuerdon, Preston; R. Smalley, Lancaster. *Hens or Pullets.*—1, T. Statter. 2, T. Raines. 3, W. W. Ruttledge. *hc*, D. Parsons; R. D. Holt; R. Smalley.

DORKING (Rose-combed or any other variety).—1, J. Martin (Coloured Rose-combed). 2, Miss Fairhurst, Woodlands, Preston (White). *hc*, P. McDonald, Sale (White); D. Parsons (White); Miss Fairhurst (White).

SPANISH.—*Cock.*—1, W. R. Bull, Newport Pagnell. 2, Hon. Miss D. Pennant, Penrhyn Castle, Bangor. *hc*, C. W. Brierley, Middleton. *Hens.*—1, Hon. Miss D. Pennant. 2, C. W. Brierley. 3, Burch & Boulter, Sheffield. *hc*, H. Beldon, Goitstock, Bingley; J. Thresh, Bradford. *Cockerel.*—1, C. W. Brierley. 2, R. Teebay, Fulwood, Preston. 3, W. R. Bull. *hc*, R. Davies, Chester; R. Teebay; J. Thresh. *c*, Hon. Miss D. Pennant; R. Teebay. *Pullets.*—1 and 2, Hon. Miss D. Pennant. 3, Burch and Boulter. *hc*, R. Teebay; T. & E. Comber, Warrington; J. Walker.

COCHIN-CHINA (Cinnamon and Buff).—*Cock.*—1, H. Mapplebeck, Birmingham. 2, W. A. Burnell. 3, R. White, Shirebrook, Sheffield. *hc*, T. Stretch, Ormskirk; W. A. Taylor, Manchester; J. Sichel, Timperley; J. Poole, Ulverstone. *c*, J. Cattell; H. Mapplebeck; J. H. Dawes, Moseley Hall, Birmingham. *Hens.*—1, J. Cattell. 2, W. A. Burnell, Southwell, Notts. 3, J. Poole. *hc*, A. Darby; W. A. Taylor; R. White; J. Sichel; H. Mapplebeck. *Pullets.*—1, Mrs. A. Woodcock, Rearsby House, Leicester. 2, W. A. Taylor. 3, J. Sichel. *hc*, A. Darby; T. Stretch; C. Sidgwick; J. H. Dawes. *c*, W. A. Taylor; Mrs. A. Woodcock.

COCHIN-CHINA (Brown and Partridge-feathered).—*Cock.*—1, J. A. Taylor. 2, T. Stretch. 3, R. White. *hc*, T. Stretch; R. B. Wood; E. Tudman, Whitechurch. *c*, C. Sidgwick; H. Crossley; Miss Story, Derby. *Hens.*—1, J. A. Taylor. 2, E. Tudman. *hc*, T. Stretch; C. Sidgwick, Ryddlesden Hall, Keighley. *Pullets.*—1, J. Wood, Brinscall. 2, T. Stretch. 3, H. Lingwood. *hc*, J. A. Taylor; C. Sidgwick; J. Horrocks, Tonge. *c*, H. Crossley; J. H. Dawes; E. Tudman.

COCHIN-CHINA (White).—*Cock.*—1, R. Smalley, Lancaster. 2, Mrs. A. Williamson. *Hens or Pullets.*—1, R. Smalley. 2, R. Brown, Cheadle, Hulme. *hc*, Mrs. A. Williamson. *c*, Bowman & Fearon.

BRAHMA POOTRA (Dark).—*Cock.*—1, A. F. Hurt, Alderwasley, Derby. 2, Hon. Miss D. Pennant. 3, Rev. J. F. Newton, Kirby-in-Cleveland. *hc*, Rev. E. Alder, Etwall Vicarage, Derby; W. Wykes, Wolvey, Hinckley; E. Leech; Mrs. Bailey, Shooter's Hill, Longton; Mrs. A. Woodcock; J. H. Pickles, Earby; R. White; J. H. Dawes; A. F. Hurt. *c*, Rev. E. Alder, Etwall Vicarage, Derby; W. Gamon; R. White. *Hens or Pullets.*—1 and 2, A. F. Hurt. 3, H. Lingwood, Creeting, Needham Market. *hc*, Rev. E. Alder; H. Dowsett, Pleshey, Chelmsford; C. Layland; J. H. Pickles; A. F. Hurt; J. Anderson, Meigle, N B. *c*, W. Whiteley.

BRAHMA POOTRA (Light).—*Cock.*—1, H. Lacy, Hebden Bridge. 2, Mrs. A. Williamson. 3, J. Pares, Postford, Guildford. *hc*, F. Crook, Forest Hill. *Hens or Pullets.*—1, H. Dowsett. 2, F. Crook. 3, Mrs. A. Williamson. *hc*, H. Lacy. *c*, Rev. N. J. Ridley; W. Whiteley, Sheffield.

POLISH (Any variety).—*Cock.*—1, M. Nicholls, Peel, Isle of Man. 2 and 3, G. C. Adkins, Birmingham. *hc*, H. Beldon; W. Gamon, Chester; T. Dean, Keighley. *Hens or Pullets.*—1, G. C. Adkins. 2, H. Beldon. 3, W. Harvey. *hc*, G. C. Adkins; W. Gamon.

CRÈVE-CŒUR.—1, W. R. Park, Melrose. 2, W. Blinkhorn, Waterdale, St. Helen's. 3, C. Layland, Warrington. *hc*, W. Harvey. *c*, W. Blinkhorn; R. B. Wood.

HOUDANS.—1, L. Biney, Manchester. 2, C. Morris. *hc*, R. B. Wood; S. H. Stott.

GAME (Black-breasted Reds).—*Cock.*—1, J. Halsall, Ince. 2, G. Hellewell. 3, C. W. Brierley. *hc*, L. Biney; C. Chaloner, Whitwell, Chesterfield; T. Sharples. *Hens.*—1, J. Halsall. 2, J. Poole. *hc*, Capt. G. Price. *Cockerel.*—1, C. Chaloner. 2, W. E. Oakeley, Atherstone. 3, S. Matthew, Stowmarket. *Pullets.*—1, J. Holland, Northwich. 2, Capt. G. Price. 3, T. Mason, Green Ayre, Lancaster. *hc*, J. Duxberry, Bradford; T. P. Lyon, Knotty Ash, Liverpool. *c*, J. Duxberry; J. Holland.

GAME (Brown and other Reds, except Black-breasted).—*Cock.*—1 and 2, J. Wood. 3, T. Statter. *hc*, T. Mason; C. W. Brierley; F. Sales, Crowle. *Hen.*—1, C. W. Brierley. 2, J. Wood. *hc*, B. Consterdine, Brookfield, Littleborough; E. Mann, Stand, Manchester. *Cockerel.*—1, J. Wood. 2, T. Mason. 3, E. Aykroyd, Bradford. *hc*, J. Wood; W. Boulton, Dalton-in-Furness. *c*, Rev. F. Watson, Kelvedon. *Pullet.*—1 and 2, J. Wood. 3, W. Boulton. *hc*, T. Mason; J. Wood; C. W. Brierley.

GAME (Duckwings, and other Greys and Blues).—*Cock.*—1, S. Matthew. 2, C. W. Brierley. 3, C. Chaloner. *hc*, P. Norbury, Bowdon; F. Sales. *c*, J. Cooper, Birmingham; J. Crutchloe; W. J. Cope, Barnsley. *Cockerel.*—1, W. J. Cope. 2, C. Chaloner. 3, J. Holland. *hc*, P. Newbury. *Hens or Pullets.*—1, G. S. Sainsbury. 2, E. A. Johnson, Wath-upon-Dearne; E. A. Johnson; J. Halsall; J. Poole. *c*, W. J. Cope.

GAME (Any variety).—*Cock.*—1, G. & C. Furness, Accrington. 2, W. Gamon. *Hen or Pullet.*—1, P. Norbury. 2, J. Poole.

DUCKS (Rouen).—*Drake.*—1 and 2, T. Statter. 3, S. Cox, Stacksteeds. *hc*, D. Parsons; Gunson & Jefferson, Whitehaven; T. Statter. *c*, S. H. Stott; D. Hardie, Sorbie, Langholm; H. Crossley; W. Gamon; T. Burns; J. Anderson. *Ducks.*—1 and 2, W. Statter. 3, D. Hardie. *hc*, S. Cox; R. Gladstone, jun., Court Ley, Liverpool; T. Burns, Abram, Liverpool. *c*, T. Burns.

DUCKS (White Aylesbury).—1, 2, and 3, Mrs M. Seamons, Aylesbury.

DUCKS (East Indian).—1, S. Burn. 2, Rev. W. Serjeantson, Acton Burnell. *hc*, H. Lacy; S. Burn; Rev. W. Serjeantson; J. M. Kilvert, Ludlow.

WATER FOWL (Ornamental).—1, J. Jennison, Zoological Gardens, Manchester (Shovellers). 2, C. W. Brierley. 3, C. N. Baker, Chelsea (Mandarins). *hc*, J. Jennison (White-fronted Geese, Shieldrakes, Pintail, and Tufted Divers); H. Smvile, Ollerton (Sebastopol, Spanish, and Brent Geese); H. Mapplebeck; J. Knott, Kirkmanshulme (Spur-winged Geese); M. Leno, Markyate Street, Dunstable. *c*, J. Jennison (Widgeon); C. N. Baker (Carolinas); J. Knott (Pochard Divers).

GEESE (White).—*Gander.*—1, E. Leech. 2, T. Statter. 3, R. Gladstone. *hc*, W. Rostron, Levenshulme; Rev. G. Hustler, Stillingfleet Vicarage, York. *Geese.*—1, Rev. G. Hustler. 2, E. Leech. 3, W. Rostron. *hc*, J. N. Beasley; S. H. Stott; T. Statter.

GEESE (Grey and Mottled).—*Gander.*—1, H. Crossley. 2 and 3, E. Leech. *hc*, S. H. Stott; T. Statter. *c*, Rev. G. Hustler. *Geese.*—1, E. Leech. 2, J. Lycett. 3, Rev. G. Hustler. *hc*, S. H. Stott; H. Crossley; Rev. G. Hustler; T. Statter.

TURKEYS.—*Cock.*—1, J. Smith, Grantham. 2, Mrs. A. Guy, Eaton, Grantham. 3, W. S. Holden, Greenfield, Farnworth. *hc*, Rev. N. J. Ridley, Newbury. *c*, W. Wykes. *Hens.*—1, J. Smith, Grantham. 2, Mrs. A. Guy. 3, W. S. Holden. *hc*, S. H. Stott.

EXTRA STOCK.

ANY VARIETY.—1, Hon. C. W. Fitzwilliam (La Flèche). 2, G. & C. Furness (Cuckoo Cochins). *hc*, F. Hill & Co., Brigaton (Gangeslan). *c*, J. Goodwin, West Gorton (Malays).

HAMBURGHS (Black).—*Cock.*—1, N. Marlor, Denton. 2, W. Green. 3, Rev. W. Serjeantson. *hc*, D. Lord; J. M. Kilvert. *c*, Mason & Walker; J. Partington, Little Heaton. *Hens or Pullets.*—1, N. Marlor. 2, Rev. W. Serjeantson. 3, J. Garside, Shaithwaite. *hc*, Rev. W. Serjeantson; H. Mason; Mason & Walker, Denton, Manchester; J. Smith. *c*, S. Butfield, Keighley; W. Green.

HAMBURGHS (Golden-spangled).—*Cock.*—1, W. A. Hyde, Hurst, Ashton-under-Lyne. 2, T. Scholes, Hollinwood. 3, J. Roe, Hadfield. *hc*, J. Ogden. *c*, J. Buckley, Tannton, Ashton-under-Lyne; T. Scholes; N. Marlor; H. Mason. *Hens or Pullets.*—1 and 3, W. A. Hyde. 2, J. Buckley. *hc*, J. Buckley; T. Scholes; J. H. Howe, Denton; H. Mason.

HAMBURGHS (Silver-spangled).—*Cock.*—1, Ashton & Booth, Broadbottom, Mottram. 2, J. H. Howe. 3, H. Pickles, jun. *c*, J. Fielding, Newchurch, Manchester; Ashton & Booth. *Hens or Pullets.*—1, Ashton & Booth. 2, H. Pickles, jun. 3, J. Partington. *hc*, J. Fielding; J. H. Howe.

HAMBURGHS (Golden-pencilled).—*Cock.*—1, H. Beldon. 2, T. Wrigley, jun., Tonge. 3, G. Anderton. *hc*, S. Burn, Whitby; J. Smith, Manchester. *Hens or Pullets.*—1, H. Beldon. 2, J. Smith, Manchester. *hc*, W. R. Park; Burch & Boulter. *c*, S. Burn.

HAMBURGHS (Silver-pencilled).—*Cock.*—1, H. Pickles, jun. 2, H. Beldon. *hc*, J. Partington; Mrs. Allsopp, Hindlip Hall, Worcester. *c*, J. Smith, Manchester. *Hens or Pullets.*—1, H. Pickles, jun. 2, H. Beldon.

GAME BANTAMS (Black-breasted Reds).—*Cock.*—1, E. Hudson, Ulverstone. 2, W. F. Entwisle, Westfield, Cleckheaton. 3, J. Sumner, Upholland Moor, Wigan. 4, J. R. Robinson, Sunderland. *hc*, J. W. Morris, Rochdale; R. Gerrard, Chowbent; H. Ashton, Polefield Hall, Prestwich; J. Crosland, jun., Wakefield; T. Taylor, Kendal; G. & C. Furness; T. Sharples, Rawtenstall; J. Poole. *c*, H. Shumach; O. Heafford. *Hens or Pullets.*—1, W. F. Entwisle. 2, J. H. Howe. 3, H. J. Marsden. *hc*, J. W.

Morris; H. Ashton; G. Heafford, Loughborough; J. Crosland. *c*, J. W. Morris; J. Heaton.

Game Bantams (Any variety except Black-breasted Reds).—*Cock.*—1, W. Adams, St. Clements, Ipswich. 2, H. J. Nicholson, Holborn Hill, Cumberland. 3, Mason & Charlesworth, Chesterfield. *hc*, J. Crosland, jun.; G. & C. Furness; W. Gamon. *c*, T. Sharples, Accrington; G. Anderton. *Hens or Pullets.*—1, J. Crosland, jun. 2, J. Sichel. 3, Mason and Charlesworth. *hc*, L. Biney; Mason & Charlesworth; W. Adams.

Bantams (Any variety except Game).—1 and 3, M. Leno (Gold and Silver-laced). 2, J. A. Taylor, Manchester (Black Clean-legged). *hc*, J. W. Morris (Black Clean-legged); Mrs. Woodcock (White Japanese); H. Pickles, jun. (Black Clean-legged). *c*, C. N. Baker (Sennerat's Jungle Bantame.)

PIGEONS.

Pouters (Blue or Red).—*Cocks.*—1, R. Fulton, Deptford. 2, W. Gamon. *hc*, F. Crossley, Elland, Halifax. *Hens.*—1 and *hc*, R. Fulton. 2, F. Crossley.

Pouters (Any colour except Blue or Red).—*Cocks*—1, W. Harvey. 2, R. Fulton. *Hens.*—1 and 2, R. Fulton. *hc*, W. Harvey.

Carriers (Black).—*Cocks.*—1 and *c*, T. Colley, Sheffield. 2, J. Chadwick, Bolton. *vhc*, J. Thompson. Bingley. *hc*, R. Fulton. *Hens.*—1 and 2, R. Fulton. *hc* and *c*, F. Crossley.

Carriers (Dun).—*Cocks.*—1, J. Chadwick. 2, T. Colley. *vhc*, F. Crossley. *hc*, F. J. MacLaren, Highfield, Pendlebury. *Hens.*—1, W. MacLaren. 2, J. Thompson. *hc*, F. Crossley.

Carriers (Any colour except Blue or Dun).—*Cocks.*—1 and *vhc*, J. C. Ord, Pimlico, London. 2, R. Fulton. *Hens.*—1, A. Lowe, Over Hulton, Bolton. 2, R. Fulton. *hc*, J. C. Ord.

Dragoons (Yellow).—1, J. C. Ord. 2, G. South, London. *hc*, W. Gamon. *c*, H. Yardley.

Dragoons (Any other colour).—1, W. Harvey. 2, G. Smith. *hc*, A. Lowe; F. Hughes, Heavily, Stockport; J. J. Bradley, Birmingham. *c*, Mrs. F. S. Arkwright.

Antwerps.—1, J. J. Bradley. 2, H. Yardley, Birmingham. *vhc*, W. Harvey; Mrs. F. S. Arkwright.

Jacobins.—1 and 2, J. Thompson. *hc*, E. E. M. Royds.

Barbs.—1, J. Firth, Webster Hill, Dewsbury. 2, R. Fulton. *hc*, R. Fulton.

Fantails (White).—1 and *vhc*, C. Bulpin, Bridgewater. 2, J. Hawley, Bingley. *hc*, H. Yardley.

Fantails (Any colour except White).—1 and *vhc*, F. Graham, Birkenhead. 2, H. Yardley.

Tumblers (Almond).—1 and 2, R. Fulton. *hc*, J. Fielding, jun., Rochdale.

Beards or Balds.—1, G. South. 2, J. Fielding, jun. *hc*, R. Fulton. *c*, W. H. C. Oates.

Tumblers (Any variety not before named).—1, J. Fielding, jun. 2 and *hc*, R. Fulton.

Nuns.—1 and 2, W. Baukes, Runcorn. *hc*, F. Graham; J. Baily, jun., Mount Street, Grosvenor Square, London. *c*, F. Graham; H. Draycott, Humberstone, Leicester; J. Baily, jun.

Magpies.—1, P. H. Jones, Fulham. 2, J. Baily, jun. *hc*, C. Bulpin.

Turbits.—1, W. Baukes. 2, G. South. *vhc*, F. Graham; C. Bulpin. *hc*, R. Fulton. *c*, J. Fielding, jun.

Swallows.—1 and 2, J. Baily, jun.

Archangels.—1, C. Bulpin. 2, J. Thompson.

Owls (Blue and Silver English).—1, J. Goolden, Hale, Altrincham. 2, J. Firth, jun. *hc*, C. Bulpin. *c*, A. Jackson, Heaton, Bolton; J. Dyson, Altrincham; J. Dorrington, Didsbury.

Owls (Foreign).—1, J. Fielding, jun. 2, F. Crossley.

Runts.—1 and 2, T. D. Green, Saffron Walden. *vhc*, P. H. Jones. *hc*, H. Yardley.

Trumpeters.—1 and 2, J. Firth, jun. *vhc*, J. Hawley. *hc*, W. Harvey; W. H. C. Oates, Besthorpe, Newark.

Any other Variety not Before Named.—1, P. H. Jones (Florentines). 2, H. Yardley. 3, F. H. Paget, Birstall. *hc*, W. Harvey; H. Yardley (Satinettes); T. Haslam, West Gorton (Crested, Passenger, and American Wood); J. Baily, jun. (German Toy and Austrian Archangels). *c*, J. Baily, jun. (Isabels and Austrian Archangels).

Doves (Any variety).—1, 2, and *hc*, J. Jennison (Chinese, Mexican, White Turtle, and English Turtle Doves.)

Judges:—*Dorkings, Spanish, Cochins, French Breeds, Extra Stock, and Bantams, except Game:* Mr. Edward Hewitt, Sparkbrook, Birmingham. *Brahmas:* Messrs. Hewitt and Teebay. *Game and Game Bantams:* Mr. Richard Teehay, Fulwood, Preston. *Hamburghs, Polands, Ducks, &c.:* Mr. James Dixon, North Park, Bradford, Yorkshire. *Ornamental Waterfowls:* Messrs. Dixon and Hewitt. *Pigeons:* Mr. W. B. Tegetmeier, Finchley; Mr. T. H. Ridpeth, Ontwood Hall, Handforth.

WEST OF ENGLAND POULTRY SHOW.

This Show, held on the 13th, 14th, 15th, and 16th of December, at the Agricultural Hall, Plymouth, was in advance of any former Show, all the *Game* being especially good, the first-prize pen beating the first-prize Black Reds at Menheniot. The single cock first at Menheniot was again the winner here, and the owner was first last year also. *Dorkings* were better than we have ever seen before in the west. *Hamburghs* and *Bantams* were very good; in fact, all the classes, with the exception of the Malay, or the so-called Indian, and the cross-bred class, were very good.

Game (Black-breasted and other Reds).—1, W. T. Spearman, Redruth, 2, S. R. Higham, Morchard Bishop. 3, R. Cleave. *hc*, C. E. Brittain Plymouth. *c*, J. Collacott, Tavistock.

Game (Any other variety).—1, N. Barter, Plymouth. 2 and 3, R. Cleave.

Game (Any variety).—*Cock.*—1, J. Harris, Liskeard (Brown Red). 2, E. C. Pope, Falmouth (Brown Red). *c*, S. R. Higham (Duckwing).

Game (Indian).—1, T. White, Liskeard. 2, J. N. Jasper.

Dorking (Any variety.—1, W. S. Trevithick, Hayle. 2, W. Brown, Callington. 3, F. Seccombe, Totness. *c*, E. Elliott, Landulph.

Cochins (Buff, Cuckoo, or Partridge).—1, J. H. Nicholls, Lostwithiel. 2, W. L. Trewin, Stratton. 3, J. Beard, St. Blazey. *c*, T. E. Hawken, Lostwithiel.

Cochins (Cinnamon, White or Black).—1 and 2, F. Brewer, Lostwithiel.

Brahma (Light).—1, P. D. Maddox, Launceston. 2 and 3, F. Seccombe.

Brahmas (Dark).—1, R. W. Beachey, Kingskerswell. 2, J. H. Reed, Calstock. 3, S. J. Lampen, Hayle. *c*, E. Bennett, Plymouth.

Polands (Any variety).—1, J. Snow, Plympton. 2, J. Beard. 3, J. Hinton, Warminster.

Spanish.—1 and Cup, Tonkin & Tuckey. 2, J. H. Reid. 3, F. Brewer.

Hamburghs (Gold or Silver-pencilled).—1, N. Barter, Plymouth. 2, S. R. Harris, St. Day. 3, J. H. Nicholls. *hc*, J. Roberts, Menheniot. *c*, J. Beard.

Hamburghs (Gold or Silver-spangled).—1, J. Williams, Menheniot. 2 and 3, S. R. Harris.

Game Bantams.—1, W. Mudge, Paignton. 2, N. Barker. 3, F. Brewer. *c*, W. T. Serjeant, Callington.

Bantams (Any other variety).—1, N. Barter. 2, A. Hodson, Bridgewater. 3, W. T. Clark, Bristol. *hc*, T. E. Hawken.

Any other Distinct Variety.—1, J. H. Nicholls (Crève-Cœur). 2, F. Brewer (Houdans). *hc*, H. Francis, Stratton (Black Cornish). *c*, T. Sherston, Falmouth (Black Hamburghs); J. Snow, Plympton (Crève-Cœur).

Selling Class.—1, N. Davey Perranwell (Black Red Game). 2, S. R. Harris (Golden-pencilled). 3, S. Mitchell, Tavistock (Dark Brahma). *hc*, J. Medway, Newton Abbott (Golden-spangled Hamburghs); J. H. Nicholls (Black Red Game). *c*, W. J. Lamb, Devonport (Duckwing Game).

Mixed or Crossbreed.—1 and 3, Withheld. 2, H. Pike, Pennycross.

Any Variety except Game.—*Cock.*—1, J. H. Nicholls (Black Hamburghs). 2, W. L. Trewin (Partridge Cochin). 3, T. E. Hawken (Andalusian).

Ducks (Rouen).—1, 2, and 3, J. H. Hoit, St. Austell.

Ducks (White Aylesbury).—1, F. Seccombe. 2, J. H. Nicholls. 3, T. E. Hawken.

Ducks (Any other variety).—1, J. H. Nichols. 2, T. M. Medland.

Geese (Any variety).—1, J. H. Nicholls. 2, W. Smith, Exeter.

Turkeys (Any variety).—1, W. Smith.

Pigeons.—*Carriers.*—1, W. H. Oxland, Plymouth. 2, J. P. Bolt, Tavistock. *hc*, A. Court, Taunton. *c*, E. Burton, Truro. *Pouters.*—1, A. Court. 2, C. Bulpin. *Tumblers.*—1, J. P. Bolt. 2, T. Chudley, jun., Plymouth. *Fantails.*—1, E. Prideaux. 2, E. Burton. *Any other Variety.*—1, J. Chapple, Newton Abbott. 2, W. Mudge. *hc*, C. Bulpin. *c*, F. Brewer.

Judge.—Mr. J. K. Fowler, Willowbank, Aylesbury, Bucks.

WEST HERTS (WATFORD) POULTRY SHOW.

This has now been held for many years, in conjunction with a fat stock show, about a fortnight before Christmas. It is always a good Show, and with some alterations might become a very large one. Inducements are not wanting. Plate prizes were common, and a stand presided over by one of the employés of Messrs. Elkington was sufficiently tempting to induce everyone to become a subscriber. Everything was there, cups, candelabra, candlesticks, ordinary articles of domestic use, down to silver-mounted beer-horns, all for the good service of the successful exhibiters—an *embarras de richesses;* nothing being required in order to have a personal interest in the attractive Show but to be pre-eminent in poultry.

The Show was held in very large tents, the best found and best managed we have ever seen, perfectly dry and comfortable, spite of the driving rain and wind, and having the great boon of a well-boarded floor raised some inches above the grass, and covered with shingle and sawdust. The pens were in double tiers, but the bottom ones were sufficiently high to enable their occupants to be seen plainly without effort. There was also ample space to allow full and comfortable circulation.

We have never seen better *Dorkings* than those belonging to the Rev. E. Bartrum, of Berkhampstead, which deservedly took both prizes for Dorkings. Mr. Horsfall's Grouse *Cochins* brought him a piece of plate and two prizes. With the exception of this colour, Cochins do not seem to find favour in Hertfordshire. *Brahma Pootras* are favourites everywhere, and excellent pens were the result. Mr. Horsfall took the piece of plate, Mr. Barnes being second. The Light Brahmas were very weak in every respect. There were some good Golden-spangled and average Golden-pencilled *Hamburghs.* These classes want strengthening, but the restriction of the competition to one county makes that a difficult process. There was an excellent show of Game *Bantams*, Lord Chesham taking the first prize, Mr. Copeland the second. It is naturally expected that Sebright Bantams should be good in Hertfordshire, and they were worthy of their county. Lord Ebury showed excellent *Spanish*, and deservedly took the first prize. Mr. P. Jones's *Polands* were of high merit. We have had hitherto to do with chickens, but now we have a class of the highest possible character, pens full of most excellent birds, of which we shall speak hereafter. *Ducks* were strong in every way, numbers, weight, and quality. They left nothing to desire, and the cup Aylesburys of Lord Chesham deserved their accumulated honours. Beautiful Mandarin and Carolina Ducks were shown. Nothing could be better than the *Geese* and *Turkeys;* they were very heavy, and in faultless condition. We cannot avoid mention of some American Turkeys belonging to Lord Rokeby and Mr. Barnes, better than any we have seen for a long time. The *Pigeons* were a long success for Mr. Parkin Jones.

Dead poultry closed the exhibition — dead fowls, Ducks, Geese, and Turkeys. Three of these prizes went to Lord Chesham, one to the Earl of Essex. The specimens were very good.

This was one of those pleasant meetings where all are comparatively neighbours, and known to each other, and where all are directly interested in the success and well-doing of the Show. It has the advantage of making the Show a real promenade, but this pleasure is not without its purchase. A limit is put to a show where it is confined to

one county, not only in the number of birds shown, but in the amount of good it is to do. The greater the competition the greater the honour of success, and a small advantage will always belong to the home owner from the fact the birds have not to travel, and avoid the wear and tear, and fasting. This is enough to turn the scale in their favour.

We have here to mention the class for aged birds to which we referred. There were sixteen pens of the best birds in the Show sent to compete for two prizes among themselves, to the weakening of the Show generally. The difference between a bird of 1869 hatched in January, and one in 1868 hatched in August, or even June of that year, is very small, almost imperceptible, and it would be a great improvement if the classes were open to all ages. With competent judges there is no danger of disadvantage to any pen on account of age or otherwise.

Mr. Sedgwick was an indefatigable Secretary.

DORKINGS (Coloured).—1, Cup, and 2, Rev. E. Bartrum, Great Berkhampstead. *hc*, P. H. Jones, Fulham

DORKINGS (White).—2, Mrs King, Wiggenhall, Watford.

COCHINS (Partridge).—1, Prize for best pen of Cochin, 2, and *hc*, R. Horsfall, Watford. *c*, Mrs. King.

BRAHMA POOTRA (Dark).—1 and Prize for best pen of Brahmas, R. Horsfall. 2, C. A. Barnes, Chorleywood Farm, Rickmansworth.

BRAHMA POOTRA (Light).—2, Lord Chesham, Latimers, Chesham.

GAME (Any variety).—1, Lord Chesham (Black-breasted Red).

HAMBURGHS.—*Gold-pencilled.*—2, Miss Gee, Abbot's Langley. *Gold-spangled.*—1, Rev. R. L. James, Watford. *Silver-spangled.*—1, E. Moon, Watford. 2, W. J. Loyd, Langleybury.

GAME BANTAMS.—1, Lord Chesham. 2, W. F. M. Copeland, Watford. *hc*, C. A. Barnes; M. Leno, Markyate Street, Dunstable.

BANTAMS (Any other variety).—1, M. Leno (Gold-laced). 2, J. Davis, Hemel Hempstead (Japanese).

CRÈVE-CŒURS.—1, C. A. Barnes. 2, Dr. A. T. Brett, Watford.

ANY OTHER BREED.—1, Lord Ebury, Moor Park, Rickmansworth (Black Spanish). 2, P. H. Jones, Fulham.

ANY BREED.—1, Rev. R. Bartrum (Coloured Dorkings). 2, C. A. Barnes (Brahma Pootra). *hc*, Rev. E. Bartram (Coloured Dorkings); A. J. Copeland, Upper Nascott, Watford (Dark Brahmas); P. H. Jones (Polands and Spanish).

DUCKS (Aylesbury).—1 and Prize for best pen of Ducks, Lord Chesham, 2 and *hc*, C. A. Barnes. *c*, C. Longman, Shendish, Hemel Hempstead.

DUCKS (Rouen).—1, W. F. M. Copeland. 2, E. Moon. *hc*, M. Leno.

DUCKS (East Indian).—1, Mrs. King. 2, Miss Gee.

DUCKS (Any other distinct breed).—1 and 2, M. Leno (Mandarin and Carolina).

GEESE.—1 and Cup, T. Peramor, Aldenham. 2, C. A. Barnes. *hc*, J. H. Barnes; M. A. & F. J. Sedgwick, Hunton Bridge Farm, Watford.

TURKEYS (Any variety).—1 and Cup, C. Longman. 2, J. H. Barnes. *hc*, C. A. Barnes; J. H. Barnes; Lord Chesham; Lord Rokeby, Hazelwood, Watford.

PIGEONS.—*Carriers.*—1 and 2, P. H. Jones. *Pouters.*—1 and 2, P. H. Jones. *Tumblers* (Almond).—1 and 2, P. H. Jones. *Fantails.*—1 and 2, P. H. Jones. *Any other Variety.*—1, P. H. Jones (Jacobins). 2, C. Waghorn, Nether Wylde, St. Alban's (Trumpeters).

JUDGES.—Mr. J. Baily, 113, Mount Street, Grosvenor Square; Mr. G. Botham, Wrexham Court, Slough; and Mr. E. Hewitt, Sparkbrook, near Birmingham.

NORTH BRITISH COLUMBARIAN SHOW.

As we cannot in our present issue adequately notice this important Exhibition, we reserve our report for the next number, in the meantime recording a success as well-earned as it was interesting in the department of Ponters—the great speciality of our northern fanciers—and directing our readers to the annexed list of prizes.

MEMBERS ONLY.—(BIRDS BRED IN 1869).

POUTERS (Black).—*Cocks.*—1 and 3, G. Ure, Dundee. 2, J. Montgomery, Belfast. *Hens.*—1 and 3, J. Montgomery. 2 and *hc*, J. Huie.

POUTERS (White).—*Cocks.*—1 and 2, M. Sanderson, Edinburgh. 3 and *hc*, M. Stuart, Glasgow. *c*, J. Wallace, Burnbank, Glasgow. *Hens.*—1, G. Ure. 2, J. Montgomery. 3, M. Sanderson. *hc*, J. Wallace. *c*, W. R. Rose, Kettering.

POUTERS (Blue).—*Cocks.*—1, G. Ure. 2, J. Huie. 3, J. Montgomery. *hc*, M. Sanderson. *c*, J. Grant, *Hens.*—1, W. R. Rose. 2, J. Millar, Glasgow. 3, *hc*, and *c*, J. Montgomery.

POUTERS (Red).—*Cocks.*—1 and *hc*, W. R. Rose. 2, D. Stewart, Perth. 3, J. Montgomery. *c*, M Stuart. *Hens.*—1, J. Montgomery. 2, A. Frame, Larkhall. 3, *hc*, and *c*, W. R. Rose.

POUTERS (Yellow).—*Cocks.*—1, G. Ure. 2 and 3, W. R. Rose. *Hens.*—1, G. Ure. 2, J. Montgomery. 3, J. Wallace.

POUTERS (Mealy-barred).—*Cocks.*—1 and 2, J. Millar. 3, M. Sanderson. *Hens.*—1, J. Montgomery

CARRIERS (Black).—1 and 3, G. C. Holt, Lawton, Cheshire. 2 and *hc*, J. Wallace. *c*, G. A. Wherland, Cork.

BARBS.—1, 2, and 3, J. H. Framo, Overton. *hc*, J. Montgomery.

TUMBLERS.—1 and 2, J. Wallace.

OPEN CLASSES.

POUTERS (Black).—*Cocks.*—1 and Medal for the best Pied Ponter Cock, any colour, in the Show, J. Huie. 2, J. Montgomery. 3 and *c*, W. Volckman, London. *hc*, J. Millar. *Hens.*—1 and *hc*, W. Volckman. 2, A. H. Stewart. 3, J. Millar. *c*, J. Montgomery.

POUTERS (White).—*Cocks.*—1, D. Stewart. 2, G. Ure. 3, J. Wallace. *hc*, J. Montgomery. *c*, J. Huie. *Hens.*—1, G. Ure. 2, J. Ruthven. 3 and *hc*, W. Volckman. *c*, J. Bruce, Dunfermline.

POUTERS (Blue).—*Cocks.*—1 and *hc*, J. Montgomery. 2, J. Cochrane, Glasgow. 3, J. Millar. *c*, R. Arbuckle. *Hens.*—1, J. Millar. 2, J. Wallace. 3, G. Ure. *hc*, J. Montgomery. *c*, W. Meff.

POUTERS (Red).—*Cocks.*—1, 2, 3, and *hc*, J. Montgomery. *c*, J. Wallace. *Hens.*—1, W. Volckman. 2, 3, and *hc*, J. Montgomery. *c*, W. R. Rose.

POUTERS (Yellow).—*Cocks.*—1 and *hc*, J. Montgomery. 2, J. Ruthven. 3 and *c*, W. Volckman. *Hens.*—1 and Medal for best Ponter hen in the Pied classes, J. Montgomery. 2, W. Volckman. 3, M. Stuart. *hc* and *c*, J. Wallace.

POUTERS (Mealy-barred).—*Cocks.*—1, W. Volckman. 2, J. Millar. 3, R. Arbuckle, Glasgow. *hc* and *c*, J. Montgomery. *Hens.*—1, J. Grant, Edinburgh. 2, J. Montgomery. 3, W. R. Rose. *hc*, J. Waddell, Dumfries. *c*, W. Volckman.

POUTERS (Irregular in colour and marking).—*Cocks.*—1 and *hc*, J. Montgomery (Splash and Checker). 2, M. Stuart. 3, J. Ruthven, Glasgow. *c*, W. Volckman (Sandy). *Hens.*—1, J. Cochrane, Glasgow. 2, J. Wallace. 3, J. Bruce (Checker). *hc*, J. Montgomery (Splash). *c*, W. Volckman.

CARRIERS (Black).—*Cocks.*—1 and Medal for best Carrier Cock, J. C. Ord, Pimlico. 2, G. Wherland, Cork. 3, G. C. Holt. *hc* and *c*, J. Wallace. *Hens.*—1 and Medal for the best Carrier Hen, G. C. Holt. 2, J. Ruthven. 3 and *c*, J. Wallace. *hc*, J. C. Ord.

CARRIERS (Dun).—*Cocks.*—1, J. C. Ord. 2, J. Smith, Sunderland. *Hens.* 1, J. C. Holt. 2, J. Wallace. 3, J. C. Ord.

CARRIERS (Any colour, Black and Dun excepted).—1, 2, and 3, J. C. Ord.

ALMONDS (Short-faced).—1 and Medal for best pair of Short-faced, F. Graham, Birkenhead. 2, P. H. Jones. 3, J. Huie.

SHORT-FACED (Mottled or Self-coloured).—1, F. Graham (Mottled). 2, J. Fielding, Rochdale. 3, P. H. Jones.

BARBS (Black).—1 and Medal for best pair of Barbs, J. Montgomery. 2, P. H. Jones. 3, W. Meff, Aberdeen.

BARBS (Any colour, Black excepted).—1, G. A. Wherland, Cork. 2, J. Montgomery. 3, P. H. Jones.

FANTAILS.—1, 2, and Medal for best pair of Fantails, J. Sharpe, Johnstone. 2, A. H. Stewart. *hc*, W. Hendry, Aberdeen. *c*, A. Frame.

JACOBINS (Red and Yellow).—1, J. Sharp. 2, E. E. M. Royds, Rochdale. 3, J. Waddell. *hc*, J. R. Rennards. *c*, F. Graham.

JACOBINS (White and Black).—1, 2, and Medal for the best pair of Jacobins, E. E. M. Royds. 3, P. H. Jones.

TRUMPETERS (Black).—1, 2, 3, *hc*, *c*, and Medal for the best pair of Trumpeters, J. Montgomery.

TRUMPETERS (White).—1, W. H. C. Oates. 2, P. H. Jones.

TRUMPETERS (Mottled).—1, 2, 3, and *c*, J. Montgomery. *hc*, C. Campbell.

TURBITS.—1, 3, and Medal for the best pair of Turbits, P. H. Jones. 2, W. Banker, Runcorn. *hc* and *c*, H. L. Tivy, Cork.

OWLS (English).—1 and Medal for best pair of English Owls, P. H. Jones. 2, Miss Grange. 3 and *hc*, J. Ruthven. *c*, J. Wallace.

OWLS (Foreign).—1 and Medal for the best pair of Foreign Owls, J. Fielding, jun. 2, P. H. Jones. 3, W. Goddart.

NUNS.—1, H. Yardley. 2, W. Banker. 3, Miss E. M. Beveridge, Ayr. *hc*, P. H. Jones. *c*, F. Graham.

TUMBLERS (Beards, Balds, and Common).—1, W. H. C. Oates. 2, J. Fielding, jun. 3, F. Graham.

ANTWERPS.—1, J. J. Bradley, Birmingham (Cock imported from Belgium. Hen flew from London Bridge to Birmingham in three hours five minutes). 2 and 3, J. Ruthven.

DRAGOONS.—1, J. C. Ord. 2, J. Stewart. 3, H. Yardley, Birmingham. *hc*, J. Ruthven. *c*, P. H. Jones.

FANCY PIGEONS (Not otherwise classed).—1, W. Goddart (Black Austrian Ponter). Extra 1, 2, and 3, J. Wallace (Damascenes, Lace Fantails, and Abyssinian). Extra 2, H. Yardley (Satinettes). 3, J. Sharp.

JUDGES.—Frederick Esquilant, Esq., London; E. L. Corker, Esq., Croydon.

SKY TUMBLERS.

I FELT inclined to write a few words on this subject when your first article appeared, but I considered that somebody would take the subject up. However, as "READER" has not found Sky Tumblers, and asks for a finger-post, I will say my say.

What I understand by a Sky Tumbler is a bird that will fly high and long, and tumble more or less in its flight. In describing Sky Tumblers, I do not include those feather-legged, broken baldpate-looking Pigeons called sometimes "Birmingham Rollers;" but the clean-legged, broad-chested, shortish-beaked, compact, strong little bird known as the common Tumbler. I believe I have the very breed. At all events, I have as good birds of this type as I have been able to find, and I have been interested in Tumblers for years.

I have certainly heard of Tumblers which, if I could find out where they are, would put mine far in the shade—Tumblers which (so it is said) will fly in the sky from four to five hours; but though I have walked many miles, from time to time, to witness this feat, I have never yet seen it performed, and I have now learned to take such statements with a "grain of salt." If anybody has Tumblers which will "do" four to five hours day by day, or one day, unless they happen to be lost, and even then I should doubt their keeping on the wing all the time—I say if anybody will let me know where such may be seen to do it, I shall be glad of the information. I have known selected birds fly an hour, or a little more. Half an hour is not bad; three-quarters I should call good flying. In saying this, I do not allow any forced work.

How long these pretty little creatures might be made to keep on the wing after they had had their voluntary flight, by pelting them with stones, or firing off a gun, I have not had the cruelty to try. My birds go up of themselves, exulting in the privilege, and settle when they like—always at home. They are let out once a-day, occasionally twice. Some tumble

excessively, and these, as a rule, do not care to fly long; others tumble less frequently, and are fonder of flying. When I want to have very lofty soaring, I do not allow the excessive tumblers to take part in the excursion. In this case the birds rise to a great height, especially if there is a clear sky, and not much wind. The length of time Tumblers will remain at the extraordinary height to which they frequently rise seems to me to depend, without going into the consideration of that accumulative disposition and power which we call breed, on the weather, the way they are allowed to take exercise, food, the place in which they are kept, and the humour they happen to be in when allowed to leave their loft, for the best treatment cannot insure their flying equally well at all times.

My birds have never had any special attention further than seeing that they had clean water, good ventilation, good tares, plenty of grit, a lump of salt, and a bath now and then. In the summer I frequently give them their liberty all day, and though this is contrary to rule, I find they will often fly quite as high and as long as when they are confined for a great part of the day.

In colour my birds are mostly splashed—black-splashed, cinnamon-splashed, with rarely a whole-coloured bird; indeed, I do not recollect ever having a high flyer whole-coloured, though I have had plenty of low-flying specimens. Colour is, however, so very accidental, to use an unscientific word, that I should not be surprised to see any colour from my stock of birds.

I doubt not "Reader" would find good birds in Manchester, Macclesfield, or Chester; but if I might be pardoned for offering a little gratuitous advice in the matter, I should say, Do not buy from hearssy, but see the birds do what you want them to do. In matters of "fancy" a person is so often infatuated himself, that there is no wonder he should misrepresent.—Old Bob Ridley.

APIARIAN NOTES.

Ligurianising.—All my attempts to establish the Italian race in my apiary have resulted in total failure. I commenced the year with five stocks, two with pure, one with a "doubtful," and two with black queens; I received a very fine queen from Mr. Woodbury in November, 1868, and although it was very cold and frosty at the time, I managed to introduce her to a good stock safely, and was pleased to find on the first day I could venture to open the hive afterwards that she had commenced egg-laying, even at that inclement season.

In January the weather was very mild, primroses in bloom on the 17th, and crocuses on the 29th. In February the weather was more like April, and on the 4th and 5th the bees were out in droves, and I observed pollen carried in for the first time. I found only a handful of bees in No. 6; the queen, a pure one, was alive but very weak. I put in a bar of comb from a black stock with the adhering bees to strengthen them, but they did not seem to like the Italian queen, and next day I found her on the ground in front of the hive. I placed her on a comb amongst the bees, but they paid no attention to her, and the stock soon perished. "Fearing all was not right with the stock to which I had joined the Italian queen in November, I took off the top, and was agreeably surprised to find the bees busy rearing young. Many Ligurians had been bred since the queen's arrival, some were cutting their way out of the combs, and the queen was in splendid condition, and such a fine one!" So I wrote at the time, but, alas! how soon a change for the worse came over them. After the fine and mild weather of February, March set in cold and winterly, and all the stocks which seemed prosperous at the beginning proved to be sadly decimated and weakened at the end. Dysentery set in, and I feared my beautiful queen and all her subjects would die. I at once removed them into a clean new hive, thoroughly cleansed the floor-board, and removed all the dead every few days, and to strengthen them a little I added a comb, with the bees on, from the next stock. On the 3rd of April they seemed better, and the queen had recommenced laying. As I had also lost one of my black stocks, I purchased one from the country, very strong and heavy, in one of the old-fashioned straw skeps, thinking it would prove useful in Ligurianising.

April 11th, a glorious day, more like June. I tried to effect an exchange of queens, as the stock with the Italian queen was very weak; but, as Mr. Woodbury surmised, I found the bees in No. 5, from which I had removed the pure queen, so irascible on my presenting the black queen, that I thought it best to return them and trust to raising queens artificially. The black queen had a foot taken off in rescuing her from a worker. On the 19th I found a royal cell commenced in this hive (No. 10), and a grub in it, so I concluded the queen had either been slain for her temporary absence, or because she had lost a foot, or she had been stung in the attempt to transfer her. I excised the royal cell, and placed a bar of brood comb from the pure stock in its place. I also placed the pure queen in a nucleus box with all her attendants, and added a brood comb from another stock, thinking they would be warmer, and thrive better. On the 22nd I found three royal cells commenced on the Ligurian comb, and one tenanted by a grub two or three days old. I took out the comb, and gave the pure queen to this stock instead. They took to her rather suspiciously, and encased her for a few hours, but I found her at liberty in the evening. I took the comb with the royal cells, and placed it and the others from the nucleus with the bees in No. 9, and then placed them upon the stand of the old straw stock, and removed it to a new stand. On the 23rd the pure queen was busy laying, and the bees in the artificial swarm were very numerous, and attending carefully to the royal embryo. They had made several pieces of new comb already. On the 30th I found two royal cells on one comb in the swarm, and one royal cell upon another; so I placed the latter in a nucleus box with the adhering bees, and then set it on the stand of the straw stock, and removed it to another. On the 5th of May I found both queens at liberty in the artificial swarms. A few days afterwards I formed another by taking a brood comb from the pure stock, placing it in a nucleus box, and then on the stand occupied by the straw stock, removing the latter again to a new stand. The last swarm never reared a queen, and perished.

About this time I began to fear my queens thus reared artificially would not be fertilised, and that I should have nothing but drone-breeders. However, on the 4th of June I found lots of eggs in one of the hives. This queen continued laying fast for about a fortnight, and I was congratulating myself on my success; but on the 18th or 19th I fancied they were not right, so I examined the hive and could not find the queen either in the hive or out of it, but I found three or four royal cells formed, one sealed and others in progress. I looked again on the 20th but could not find her, and cannot form any idea what became of her; and although I removed the royal cells, and gave the bees a brood comb from the pure stock, they never raised another queen, though very strong at the time, and eventually they dwindled away until none were left. The royal cells taken from the last I gave to an artificial swarm; this raised a queen but I never saw her, the cell was empty, but no queen could be found; and either from the age of the bees, or from fighting, although they were 6 or 7 feet from any other hive, one-half of them must have died, the ground all around being strewn with the dead.

On the 6th of June, the queen in one of the first swarms had not been rendered fertile as there was no sign of eggs or brood, so I took about sixty drones in a glass to the hive, and then the queen was taken out upon a comb and set off for a flight, the doorway blockaded, and the drones set at liberty. She was soon back on the alighting board, but was sent off again several times, until I found some of the workers attacking her when she alighted, and fearing they might kill her I allowed her to enter. On the 8th of June I found a few eggs, so it seems she had met with a drone on the 6th; judging from these facts she must have been thirty-one or thirty-two days old at least before she became fertile, as I saw her first on the 5th of May. This swarm never prospered, and was afterwards joined to another, but in September all died.

On the 20th of June, although I had made three or four artificial swarms from the old straw stock, on going into the garden about four o'clock I observed in a pear tree what I at first took for a piece of matting, but on looking again I found it was a large swarm of bees; of course I had them hived as quickly as possible, and in ten or twelve days they had nearly filled a Woodbury hive with comb, and as I feared they would cast off a virgin swarm I placed a super on, but they never worked in it—the honey season here seemed to be over. The "old straw" must have had a wonderfully prolific queen, as the number of bees I took from it was immense, and on the 30th they seemed ready to swarm again. I had heard "piping" the last two days. They came out in numbers several times, but I could not watch them, so I drove them out, and placed them in a Woodbury hive on their old stand, and swept the bees from the artificial swarm above mentioned into the straw hive,

thinking they would make a fair swarm, and that they would prosper with the store of honey still left in the hive. However, they were afterwards attacked by robbers, and all cleaned out. All my artificial swarms came to grief, and on the 24th of October I found my beautiful Italian queen and nearly all the bees dead; only a few hundreds in the hive altogether, and not more than thirty or forty alive. Since then my "doubtful" stock has become emptied in some singular manner—I fancy they must have found a better home—and thus ends my attempts, extending over three seasons, at Ligurianising an apiary.

Cork Hives.—I have made one of these by way of experiment, and I find that last winter the bees were kept free from damp and disease, and were very strong, in fact it was my best hive. Such hives are very easy to make. Let a wooden frame be made just the same as for a straw Woodbury hive, and then have pieces of common cork cut the size of the openings (where the straw is placed in the others), and fit them in; then drive one or two wooden pegs in on each side to keep the cork in its place. For the top it is better to drive two pieces of strong wire edgewise through the frame and the cork to prevent it sinking in the middle with the weight of the feeding bottle, then cut a 2-inch hole through the centre, and the hive is complete. The pieces of cork for the sides cost 6*d.* each, and for the tops 1*s.* 6*d.*; so the whole hive can be made for a few shillings.

Remedy for the Sting of a Bee.—With all deference to Mr. Woodbury, I say, Use vinegar. Perhaps his cuticle is not so sensitive as mine and many other people's. Our milkman, for instance, was stung on his nasal organ, and for two or three days he could not see anything straight before him. Vinegar is handy, easily applied, alleviates the pain, and prevents swelling if applied immediately; it is really a comfort to have it ready in case your children get stung, as the sting being extracted and the vinegar applied to the wound, their tears are dried up, and your feelings are at rest at once. "Whatever's that?" exclaimed one of them one day as we were quizzing a large ichneumon fly through a magnifier. "His antennæ to be sure." "His antennæ! why, they are as big as mine." "Why," rejoined another young hopeful, "he means his Aunt Hannah!"—J. R. J.

ORIGIN OF THE HIMALAYAN RABBIT.

Its true origin (and curious enough it is) may be found in Darwin's "Animals and Plants Under Domestication." The account there is taken principally from your Journal for 1857, and differs entirely from Mr. Rayson's. It is, in brief, a cross between Silver-Greys and Chinchillas; and its name may be classed with such as "Archangel" Pigeons, "Brahma Pootra" fowls, "Labrador" Ducks, &c—names well-sounding enough, but only given in order to sell the animals.—Duckwing.

OUR LETTER BOX.

Books (*J. S. W.*).—"The Poultry-Keepers' Manual" contains what you need. You can have it free by post from our office if you enclose 7*s.* 10*d.* in postage stamps with your address.

Game Bantams' Eggs (*G. W. W.*).—They are quite as good as any other fowl's eggs for table use. You must not expect "the cheapest" book to be "the best." You can have post free from our office "The Poultry Book for the Many," if you enclose seven postage stamps with your address. "The Poultry-keepers' Manual" you can similarly have if you enclose 7*s.* 10*d.*

Swelled Crops (*Guildford*).—Give each bird a dessert-spoonful of gin daily until the crop becomes natural. We applied in vain for a prize list.

Hamburgh Cockerel's Eye (*Hants Henwife*).—We should attribute the loss of the eye to disease of some sort. It would not be roup, as in that case, though the face and lid are swollen, the eye remains perfect. There is a disease to which Spanish are subject which destroys the eye; that is incurable. We believe that is always the case where the eye—that is, the eyeball, is attacked. It is always advisable where an eyelid is swollen to treat it with cold water and vinegar.

Brahma Cock's Leg Inflamed (*Idem*).—No doubt he picks his legs because there is fever and they itch. Keep them well and constantly moistened with sulphur ointment till the feathers are grown and formed.

Ducks for One Drake (*B.*).—Six Ducks are too many for this season of the year. Three are enough. In three months' time he may have six. If your Ducks are old have a young drake; if they are young, have a two-year-old drake.

Yards of Dorkings (*Idem*).—Breed from your cup cock and the four heaviest and best-shaped hens you have. Divide the other hens and pullets between the two young cocks. It is, however, useless at this time of year to give them more than four or six each. There is no objection to their running together; but if you intend to hatch the eggs you must only use the eggs of certain hens and pullets.

Drinking Fountain—Cock's Spine Injured (*Chemicus*).—Use Baily's registered fountain. We should not breed from an injured cock.

Buckwheat—Cooked Meat (*Francis*).—You can buy buckwheat of any seed and corn dealer. If you wish them to lay early you will find raw meat a greater stimulant than cooked. The use of it is injurious to the birds.

Pullet Walking with Difficulty (*M. W.*).—The bird is probably injured in the spine; if it is not, it is suffering from atrophy, and will surely die. We do not think it is worth doctoring.

Golden-pencilled Hamburghs (*Subscriber, H. S.*).—The unfavourable state of the weather may well explain why your fowls are not in first-rate condition. They suffer from the constant rain and damp, and from boisterous and cold winds. If you look at your birds you will see them crouched under the shelter of a wall instead of running about in search of food. We do not much admire your feeding. We have never found fowls do well on Indian meal; they do not like it with us. A better feeding will be barleymeal or ground oats in the morning, some Indian corn at midday, and meal again in the evening. You need not breed from two or three sorts, but to breed prizetakers you must breed from two strains. It is almost impossible to breed first-prize cocks and pullets from the same birds.

Spanish Fowls (*H. Jones*).—They require feeding like any other fowls Good barley is good food. A little Indian corn is a good change; but the best and principal food should be barleymeal or ground oats. When preparing for exhibition many amateurs give a few white peas two or three times per week.

Feathers (*E. Jones*).—The feathers you send only tell us the colour of your birds. They are Cuckoos. There are Dorkings, and Malays, and Cochins of the colour. We fancy very likely these are four toed Cuckoo Dorkings.

Preserving Eggs in Lime (*Harriett*).—We have preserved eggs for many years in the way we recommended to you. The lime is always kept mixed in readiness, but not with the idea any good would result from it. We do not find the shells crack, nor does the inside mingle. We eat them constantly for breakfast. The most important point in preserving them in this way is to put them in when they are very fresh.

Carrier Pigeon's Eyes Diseased (*R. de Winton*).—In the earliest stage we would advise a lotion of alum and water. A lotion of lunar caustic (a skilful chemist would know the strength), has also been recommended. The disease is supposed to arise from the great development of wattle, and the tendency in old birds to the formation of spouts by the turning out of the lower lid. These spouts may be removed by being cut from below upwards with a pair of very sharp scissors.

Roup in Pigeons (*John Robinson*).—You say you have tried everything you have been told or read about with little success. A shrewd writer observed, "If I were a physician I should look not so much at symptoms as causes." So in Pigeon diseases. How about the loft—is it cold? is it draughty? is there any damp? does the rain drive in? do trees overshadow it? is the manure left on the floor? and is that floor of brick or wood? Pigeons will bear almost any amount of heat. We have had no illness in a ceiled loft which in summer is intensely hot, but cold or wet fancy Pigeons cannot bear. As you have tried the received remedies it is of no use detailing them. Again we say, Look to the cause, for cause there must be.

Fertilising Turkeys' Eggs (*A Six-years Subscriber*).—Yes, the whole of the eggs will be fertile without the hen being with the male bird again.

Ashford Poultry Show.—Mr. H. Dowsett writes to say, that it was he, and not Mr. Herbert, who gained the cup, first, and commended for Dark Brahmas.

Tredegar Poultry Show.—In the class of Dark Brahma Pootras, Mr. W. Sims, Stroud, had a pen "very highly commended."

Menheniot Poultry Show.—The first prize for Brown Red cocks, we are informed, was awarded to Mr. John Davies, of Moorswater Lodge, and not to Mr. S. R. Harris as stated in the prize list published page 467.

Pigeon Lice (*A. L.*).—The sheep ointment and blue unction are the same as the mercurial ointment sold by chemists. We should think sulphur ointment would be as effectual.

Hen Canary Singing (*A Six-years Subscriber*).—There is no reason why it should interfere with her breeding.

Waxbills (*L. B.*).—There are about six varieties of Waxbills. They are natives of Africa, Australia, and the island of St. Helena. The smallest variety is the Zebra, but which is the handsomest depends on fancy. The Zebra is handsomely marked, and that and the Orange-cheeked are the most rare. The food should be French and India millet and Canary seed. We are not aware of any foreign cage bird being smaller than the Waxbills.

Austrian Loan, &c. (*Inquirer*).—We know nothing about it. The best food for dogs is barley meal made into a paste with pot liquor or milk. Give a dessert-spoonful of flowers of sulphur daily until the eruption passes away. It will go more quickly if mild sulphur ointment be rubbed into the eruptions.

POULTRY MARKET.—December 22.

We are sorry we cannot report that the approach of Christmas has done anything towards infusing life into our market on trade. We can only chronicle a great stagnation at the time we go to press. We are unable to report on Turkeys.

	s. d.	s. d.		s. d.	s. d.
Cock Turkeys	10 0	to 40 0	Partridges	1 9	to 2 0
Hen ditto	6 0	10 0	Pheasants	2 6	3 0
Large Fowls	3 6	4 0	Pigeons	0 7	0 8
Smaller ditto	2 6	3 0	Hares	2 6	3 0
Chickens	1 9	2 0	Rabbits	1 4	1 5
Geese	6 0	9 6	Wild ditto	0 9	0 10

WEEKLY CALENDAR.

Day of Month	Day of Week.	DEC. 30, 1869.—JAN. 5, 1870.	Average Temperature near London.			Rain in last 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
30	Th		44 5	31.7	38.1	16	9 af 8	57 af 3	2 af 5	15 af 2	27	2 54	364
31	F		43.5	33.2	38.4	14	9 8	58 3	16 6	55 2	28	3 23	365
1	S	New Year's Day.	43.0	30.0	36.5	12	8 8	0 4	25 7	44 3	29	3 51	1
2	Sun	2 Sunday after Christmas.	41.9	28.9	35.4	17	8 8	1 4	24 8	41 4	●	4 20	2
3	M		42.6	30.0	36.3	19	8 8	2 4	11 9	46 5	1	4 48	3
4	Tu		42.2	28.6	35.4	17	8 8	3 4	50 9	52 6	2	5 15	4
5	W		41.4	27.3	34.4	16	8 8	4 4	20 10	0 8	3	5 42	5

From observations taken near London during the last forty-three years, the average day temperature of the week is 42.7°; and its night temperature 29.9°. The greatest heat was 57°, on the 3rd, 1860; and the lowest cold 11° below zero, on the 4th, 1867. The greatest fall of rain was 0.86 inch.

WHAT ARE YOU DOING THESE WINTER EVENINGS?

LET everyone of us answer that question to himself—it will do us good—it is a question put by a sound practical gardener in a letter with which these notes will conclude; and we would offer a few relative suggestions to all who read these pages. Let readers peruse them teachably; let contributors enrich them liberally; let the Editors preside over them kindly. Above all, let everyone of us, after acceding to those suggestions, take a lesson from one of near threescore and ten, who sometimes contributes to "our Journal." He was at his fireside table, had just concluded writing to us, and his hand was then on his Bible. Looking at his visitor he observed, pointing to a volume by his side, "I have just done with that book, and am going to finish the evening with the best." Such a man knows well what to do with his winter evenings, and all who follow his example will pass that most welcome of seasons—a peace-abounding Christmas. Such a season heartily do we wish to all friends round our Journal, and to none more heartily than to those addressed as follows:—

A CHAPTER FOR YOUNG GARDENERS.

"The evenings of winter are once more upon us, and very welcome they are to us gardeners, even if they do add somewhat to the care and anxiety inseparable from our calling. Very welcome and very precious to us is the time which these long hours of darkness place at our disposal; many studies to which but little attention has been given during the busier period of the year are now again taken up in downright earnest, and as progress is made towards that proficiency which is ever the reward of steady persevering application, the time that can be devoted to study even appears too short and precious for its purpose. No one can fully understand or realise this feeling unless he has experienced this longing for improvement. The old schoolboy couplet—

> 'He that in writing would improve,
> Must first with writing fall in love,'

is justly applicable to the would-be student of any branch of science or learning. Let a person of sufficient intelligence but devote himself to the acquisition of knowledge, perseveringly and steadily—aye, even a plodder if you will, who, instead of being daunted by a difficulty or failure, feels it but an incentive to increased exertion, and there need be no fear as to the result.

"As a practical application of this reasoning I would ask those young men who aspire to the charge of a garden, What are you doing with your winter evenings? and in asking this question I do not forget the difficulties in the way of such young men in the pursuit of knowledge. An isolated position is, generally speaking, one of the trials of a young gardener; it is but seldom he is situated near enough to a large town where he might obtain any of the advantages to be gained from good lectures, evening classes, and the like. Although, considered in such a sense, isolation is a drawback, yet the very quietness of the life, the being thrown back upon one's own resources, not unfrequently proves an advantage, causing us to cherish a feeling of self-reliance, and a spirit of self-help. Let a gardener but become engrossed with his business, striving constantly to excel, placing his standard of excellence very high, never suffering a failure to daunt him, but bending all his powers of mind and body to overcome every obstacle, and there will be such an impetus given to his exertions as will impart such life and animation to his entire being as to take away all sense of isolation. Isolation! surely no thoughtful man surrounded by the wonders of animated nature can be sensible of such a feeling.

"Another—a drawback to the young student—is low pay, yet by practising strict economy, sufficient funds may be accumulated wherewith the requisite materials for his studies may be purchased. And, then, perhaps the greatest hindrance of all is bothy life. Most young men in places of any extent pass a few years in the bothy, and it is but seldom that three or four persons so thrown together prove to be alike in their dispositions or inclinations. Very rarely is it that all are alike earnest in the pursuit of knowledge or in self-culture; one may be studious, while another may be musical, and it is no easy matter to solve a mathematical problem with an accompaniment on a concertina, or to devote oneself to any pursuit requiring much thought with a set of noisy companions.

"The different studies which a young gardener may profitably pursue are too numerous to mention here; it will, I hope, be more useful if those branches are named a knowledge of which may be considered to be indispensable. These are botany, vegetable physiology, chemistry, mensuration of solids and superficies, geometry, free-hand drawing, the harmony and contrast of colour; and to these may be added the study of entomology, soils, manures, heat, and light. Other subjects equally important will be sure to force themselves upon the mind. A young gardener should be no mere schoolboy taking to his lessons at stated periods, but should endeavour to put the theory of his evening studies to practical application and proof, so far as he consistently may, in his daily occupations.

"As those works which are essentially necessary to the student are most of them expensive they should be chosen with care. Those which partake of the character of an encyclopædia are the most useful. For chemistry, botany, geometry, free-hand drawing, Latin, and geology, nothing can be better than Cassell's new 'Popular Educator;' for scientific gardening generally, Thompson's 'Gardener's Assistant,' and Johnson's 'Science and Practice of Gardening;' 'The Vegetable Kingdom,' by Dr. Hogg, is also a valuable work. These are all illustrated books, which adds very much to their usefulness as aids to the student. For the study of mensuration I know no better work than Nesbit's 'Mensuration.' In addition to books, a microscope and case of drawing instruments are very useful. A good-enough microscope can be had for a guinea, and

a box of excellent drawing instruments for 10*s*. It is advised to purchase good instruments, especially compasses, as it is impossible to work accurately with loose-jointed compasses.

"I have omitted to mention with the other leading subjects for study the geography of plants, an important and highly interesting study, a knowledge of which is calculated to materially assist us in our efforts to afford each plant a temperature and soil similar to those in which it is known to flourish in its native country—to produce, in fact, an artificial climate as nearly similar to the natural one as possible.

"With the wish that these few hints may prove useful, I will bring this paper to a close, only pausing to observe that that man must best succeed in his calling who, in addition to thoroughly mastering its fundamental laws, also makes it his life's study.—Edward Luckhurst, *Egerton House Gardens, Kent.*"

A CHRISTMAS RETROSPECT OF THE FUNGUS SEASON.

[The following *jeu d'esprit*, written by one of our contributors, an enthusiastic fungologist, is so full of wit that we believe our readers will thank us for printing it. Nearly every word is a play on some well-known genus of fungi and equally well-known authority on the subject.]

"December 25th, 7 P.M.—Gentlemen—We have had a grand *Agari-cultural* season this year, particularly in the rich vale of *Berkeley*. Spores have been up, and mycelium active, fungologists have not had *Mush-room* to complain, for fungi have been so abundant that a *Batsch* might have been swept up with a *Broome anywhere:* not, indeed, like certain seasons, when fungi prove so scarce that one might naturally imagine some *Roques* had been and *Hyd'n'um*. We have *Cooked* a good many species this year, and had some very *S(p)hæria Fries* and no *Phallus-y*, not needing the accompaniment of *Currey*, or any other condiment. Not to b-*Link* the question, however (or to be wanting in *Curtis-y*), fungi are not without a certain *O(i)dium*, but no one can deny that edible *Tode-stools* are better than *Bad-ham Cooked* by any *Bunt-ing Hussey*, for you see they never *Pa-nus*, neither are we ever attacked by *Delirium Tremellas* after dining.

"P.S.—9 P.M.—Since writing the above some of my guests have expressed their opinion as to the advisability of sending it to The Journal of Horticulture.

"Guest No. 1 merely says '*O-dont-ia* ! ! !'

"Guest No. 2. 'I don't think Dr. Hogg will like that reference to *Bad-ham*.'

"Guest No. 3. 'Don't let us have any more contents out of that *Crucibulum*.'

"Guest No. 4. '*Dry-rot* it (!), I can't understand it.'

"Guest No. 5. 'Such a fanciful flight is not worthy of true wings (only *Cham-pignons*).'

Guest No. 6. '* * * * *.'—W. G. S."

VIVIPAROUS BRITISH FERNS.

So many interesting instances of the proliferous tendencies of our native Ferns have come under my own immediate notice as to warrant me in placing them on record. With this object it is my intention briefly to refer to a few facts having indirect reference to the present subject, then I propose, *seriatim*, to show that proliferous Ferns are formed on the candex; on the rachis; on arrested, or dwarf, or deformed fronds; on incipient sori; by morphology; and from pseudo-bulbs.

In January, 1854, Newman in his "History of British Ferns," names Polystichum angulare as the only British species that produces bulbillæ. In the spring of that year bulbs were detected on one of my seedling Scolopendriums, when, having communicated my discovery to a leading amateur authority, he examined his own plants, confirming the fact by finding similar formations. By the close of that year, with his further assistance and that of the Curator of the Oxford Botanical Gardens, ten species were found to be viviparous. Subsequently the late Mr. Jackson, of Barnstaple, discovered that the stump of a frond, though several years old, if removed with a bit of the caudex is capable, with the assistance of bottom heat, of forming several bulbs.

I now refer to my own experience.

Having noticed that Scolopendriums occasionally emit roots from the rachis, a frond was selected that had thus formed a single rootlet; it was potted off and placed under a glass shade. At the end of a year the frond had almost decayed away, and a small bulb was growing on the rachis.

Athyrium Filix-fœmina has with me only once been proliferous; at present a small seedling plant of uncum ramosum has several bulbillæ on two dwarf and curiously ramose fronds.

Scolopendrium Wardii is a dwarf and very ramose variety, having a massive multifid head. It is supposed to be a seedling sport of laceratum. It never seeds, though in a warm moist atmosphere it becomes highly proliferous, all its numerous apices being furnished with young Ferns, whilst the surface of its fronds only produce a few. Very rarely one of these young plants assumes a perfectly distinct form—viz., pseudo-Wardii, being very and acutely ramose; this variety never bears bulbs, but is profusely soriferous. A large batch of its seedlings have assumed both forms, pseudo-Wardii being in the proportion of about five to one of Wardii.

Adiantum capillus-Veneris is erroneously regarded as being viviparous, when, in a congenial temperature, its spores vegetate on the sori. A plant of this species (rotundatum), that has not yet fruited, produced a normal frond of two pinnæ; the rachis decayed at the base, throwing the frond on to the surface of the soil. On one pinna three bulbs have formed, and four on the other, exactly where incipient sori may be supposed to be situated.

Plants of Adiantum bulbiferum, that I gathered in the Isle of Man, have on four separate occasions formed fronds, which by morphology have, in place of expanding their pinnæ, become a cluster of bulbs, each pinna forming one.

A depauperated and fertile plant of Asplenium Adiantum-nigrum that I found in North Wales, has at the base of each rachis a pear-like enlargement that remains when the fronds fall off, which latter are apparently attached by a similar contrivance to that exhibited by Woodsia, leaving a cluster of pseudo-bulbs bearing a striking resemblance to the miniature stool of an Orchid. The vitality of these bulbs has not been tested, though it is almost certain that with careful treatment each is capable of forming a plant.—A. Clapham.

KEEPING BLACK HAMBURGH GRAPES.

Having read an article in the number of December 2nd, "How we Got over our Peach Failure," I offer a few remarks as to how I managed to keep Black Hamburgh Grapes in a perfect state up to the present time, having several vineries, and not forcing any of them.

As a matter of course, the Grapes all ripened about the same time, but having been recommended to adopt the method I am going to describe, I immediately made a beginning. Taking a number of empty blacking bottles, I washed them thoroughly clean, filled them with water, adding to each bottle at the same time charcoal broken in pieces the size of a pigeon's egg. On the 15th of September I selected several bunches, some that were scarcely ripe and the wood in a green state, others quite ripe and the wood perfectly firm. I then proceeded to cut the shoot two or three eyes below the bunch, and I put the stems into the bottles in a slanting direction, so that the bunches hung clear from the sides.

The result stands thus:—Of the ripe bunches the stalks withered, those of the unripe did not, the stalks being as perfect as the day they were cut. The berries of none of the bunches have shrivelled, and the flavour is as good as on the day they were cut, if not better. They were put away in a dry attic, where they had plenty of light and a free circulation of air. I may add that as the water evaporated the bottles were refilled. When I now write (December 18th) they look as though they would keep good for a couple more months.

I make these remarks for the use of those who may not have an ice house, and during the last two winters no ice could be obtained in this part of the country.—J. S., *Eccles Hall.*

FRENCH POPPIES.

I was much struck last May with the beauty of a bed of French Poppies, which, sown the previous summer directly the seed was ripe, had grown bushy and strong, and rewarded amply their owner, who, with much trouble, has collected about thirty varieties, all varying from 1 to 2 feet, and running through every shade of crimson, scarlet, orange, rose, pink, blush, lilac, cream, white—bordered, striped, spotted, fringed, flounced, and self—and varying from large single blooms to

hundred-petaled ones, vying with the Rose for beauty, the fragrance, alas! wanting. I have often wondered that these gems were not more cultivated, and a succession of sowings would carry on the bloom till late in the autumn. Sunshine they must have, and they blossom best on a rather poor soil. —Devon.

[We omitted the last sentence in your note. From experience we can testify the persecution it occasions to the generous.—Eds.]

MOISTURE IN THE AIR OF A VINERY. HYGROMETERS.

1st, What amount of atmospheric moisture is proper to be kept in a vinery in the different stages of growth? Also what is the best way of constructing a hygrometer, or for what price and where can a moderately good one be purchased? The Vines are started on the 1st of February.

2ndly, Last year my Vines were started on the 23rd of January. In March and April, when in leaf, we had several fierce sunny days, but with a sharp, cutting, easterly wind, and in giving air to keep down the temperature the leaves suffered severely, the greater part of them turning quite yellow. I shall be glad to know what is the best management for a vinery under such circumstances as the above, both as to giving air and moisture, so that the leaves may be kept healthy.—T. H. D.

[The subject is a very large one and to go into it fully would require more details than could be entered upon in a short answer, or even an article. We cannot give you the prices of hygrometers, as they vary according to the kind, the workmanship, and the nicety of observation required, and instructions generally accompany the instruments. Of these, Daniell's we still consider the best. There are many simple hygrometers which sufficiently tell roughly the vapour existing in the atmosphere, such as pieces of wood, and long hairs deprived of their oily matter by washing in hot water containing a little dissolved soda; any textile fabric, as flax, will always tell in a rough way, and so will any kind of cord, catgut, seaweed, &c. We know many farmers who keep a piece of seaweed in their sitting-room, and depend as much on that as the best of barometers. When there is much vapour it becomes soft and clammy to the touch; when the air is dry the seaweed is also dry. All the cords and textile fabrics alluded to above contract in a damp atmosphere and lengthen in a dry one. We once had a very useful simple hygrometer. It consisted of a piece of catgut 6 feet long; one end of this was fixed by a pin to the wall, and the catgut was taken horizontally about half its length, and then turned over a wooden peg with a groove in it, the loose end hanging down perpendicularly, with a small piece of lead attached to it to keep it so, and in that lead a peg or pin of 2 inches long, or so, was fixed, so as to pass up and down in front of a slip of wood some 18 inches long, with lines made across with a pen at regular distances. The pin or index rose or fell, just as the catgut contracted or lengthened.

Next to Daniell's hygrometer for correctness, and, perhaps, the simplest as formed on the same principle, is merely to have two thermometers suspended close to each other, and which are seen to denote, when left alone, the same degree of temperature. Place one wrap of white muslin or silk round the bulb of each thermometer. Leave then the bulb of one thermometer dry to denote the temperature of the atmosphere. Keep the bulb of the other thermometer, with its covering, wet, by a phial or other vessel of pure water suspended over it, and a thread of floss silk or fine wool passing from the vessel to the bulb. The difference in temperature between the dry and the wet bulb enables us to measure the amount of vapour in the air of the house. Thus, supposing both bulbs were within from 1° to 6° of the same temperature, we should consider that the humidity was quite ample. Should even the wet bulb fall to as much as 7° to 10° below the dry one, there would not be much cause for alarm in general; but when the difference reached 12° or 15°, or more, then the extra dryness would become dangerous, and especially in cold frosty nights.

Now, to apply the above, so as to give an answer to your second inquiry, in all glass houses the greater the difference between the external and the internal air, the greater the necessity of attending to atmospheric moisture. Hence, on this account alone, a comparatively low safe temperature at night is not only safest and healthiest for most of the plants we grow in forcing heat, but it involves least trouble as respects the necessary atmospheric moisture. Much less attention will also be required in houses whose glass roofs are close, without laps, and also somewhat in proportion to the thickness of the glass, as, other things being equal, the thicker the glass the more heat will it keep in, and therefore in a cold night there will be less condensation of moisture on its inner surface, that condensation always tending to make the air drier. The greater, therefore, the difference between the internal and the external temperature, the greater will be the condensation, and that much more than in an arithmetical ratio. This condensation is one of the causes of the air in houses becoming too dry. It has been computed that each square foot of glass of ordinary thickness will cool 1¼ foot of internal air as many degrees per minute as the temperature of the inner air exceeds that of the outer air. Thus, if the outside air should be 30°, and the inside 60°, the vapour in the 30° difference would be precipitated or condensed against the glass or bars, and either run out of the house or hang or drop in it. The capacity of air for moisture is greater the higher the temperature, and that much more than in a regular gradation. Thus, air at 66° will hold a double amount of invisible vapour as compared to what it would do at 44°; but it will hold three times as much at 80°, and four times as much at 90°, and so on. Air escaping at 80° takes out with it four times as much vapour as would come in with air at 44°. An idea may therefore be formed of the parching effects of letting air out of a house, say at 65°, and admitting frosty air at 20°. A second chief cause, therefore, why the air of a high-temperatured house becomes overdry, is the free escape of the heated moist air against our will through lape in the glass and other crannies, and our voluntary admission of the cold air by ventilation. A third mode of overdrying the air may be here referred to, and that is when such porous materials as soft flues were used in houses with a high temperature. Close hot-water iron pipes give just as dry a heat as the flue would do, but then the pipe from its hardness cannot greedily, like a soft flue, suck in the moist vapour.

Now for a practical application. We believe that much injury in old times was the result of having an atmosphere too hot and too dry; and in modern times, though an atmosphere saturated with vapour would tell most favourably on all annual and succulent growth, and is most needed there, this extra humidity, if maintained, would tell injuriously on the flavour of fruit and the ripening of the wood. For deciduous plants, such as the Vine, it is most needed when the shoots are young and soft, and when the fruit is also small; but as the latter becomes well swelled, the air of the house should become gradually drier. We may take a lesson from what disappoints us as well as from that which succeeds. Many a Peach tree on the open wall fails, if not in fruit, at least for a time in healthy shoots, because when these shoots are young and soft the air is too dry and parching for them. We can neutralise the dryness in the houses, and here the simplest modes are generally the most effectual. In the general run of plant houses, where the forcing heat seldom goes beyond 45° or 50°, little or no trouble need be taken about atmospheric vapour if ventilation be given in moderation, and the external temperature should not be very low; but in severe frost, when more firing is needed, it may be necessary to damp the stages and the pathways, and even the floor, with a syringe. Giving air sparingly, at the top of the house will be much better than larger fires and accompanying evaporating pans. The vapour rising from the pots and the floor will, except under these circumstances of extra cold, be quite sufficient.

Then, again, in the case of Vines, little additional vapour would be needed for the first three weeks of forcing, but as the buds break and lengthen more will be required—that is, as the heat of the house rises to 60° and onwards. Generally, evaporating pans on the top of flues and pipes will be the best for this purpose; but on extra occasions, such as a bright sun in sharp frost, the floors and pathways should be sprinkled in addition, but in such cases less depends on additional atmospheric moisture than in preventing it unduly escaping by free ventilation, and this should be regulated by preventing fire heat and sun heat acting on the enclosed atmosphere of a house at one and the same time. The beams of the sun will tell quite as well if there be no great openings in such cases for the entrance of cold, dry air. In dull, mild weather out of doors, less artificial vapour will be wanted than when the external air is cold and frosty.

It is just possible that in a vinery started on January 23rd the leaves suffering severely in April, so as to turn yellow during a few days' fierce sun and cutting east winds, might be

partly owing to the Vines growing in a high temperature previously, and in dull weather, and in an atmosphere saturated with moisture, the leaves thus becoming thin, and less able to bear a sudden change and the full force of the sun's beams. But allowing the result might be partly owing to this, we are inclined to think it was chiefly owing to giving too much of the cutting east wind to keep down the temperature, and more especially if there was the meeting of a strong heat from the heating apparatus with the more natural heat from the sun. No rule in such a case will be equal to an observant eye. Whenever under such circumstances there is a likelihood of a bright sun, the apparatus for heating should be allowed to become cooled, and then the sun may shine freely, with only a little ventilation at the highest part of the house, and the air admitted is thus warmed and moistened before reaching the plants. It is well to have cold, dry, fresh air heated and moistened before admission, but that is as yet comparatively seldom done; and the next best plan is to give air early under such circumstances as those referred to, and very little will do if the sun heat and fire heat do not meet, for a rise of 10° or 15° from sun heat with air on, is a very different affair from a rise of half that amount of heat from fire heat alone.

With regard to details as to temperature, supposing you begin, as respects a vinery, at 45°, raise it gradually to 60°, but never above with artificial heat until all the buds have broken and commenced growing, when the average night temperature might rise to 65°. For a short time, when the Vines are in bloom, the heat may rise to 70° or nearly so; and when all set the night temperature may range to an average of 65° for all the hardier Vines; Muscats may have a little more. Now, during the day, even in dull weather, the house averaging from 60° to 65° at night may rise at midday to 70° or a little more; but as the Vines advance, and if the fires were low, and a little air early given, and thus the heat rose very gradually, we would sooner let it mount to 80°, 85°, and 90°, and even higher, from sun heat, before we would lower it by admitting at once a great quantity of cold, dry, frosty air. We have thought over the matter quietly before penning these ill-connected remarks, as we would like to be useful if we can, but all utility is best accomplished by united action, and you will much help if you would kindly state if our surmises as to your case are at all correct.

In conclusion, we may mention two similar facts that came under our own observation. A house of beautiful Cucumbers was heated, as one of a number of houses, from one boiler. In a bright sunny day in the beginning of April, with a cold, piercing east wind, hardly any air had been given, the valve of the water pipes had not been touched, and on opening the door the temperature from hot water and hot sun was enough to make one go out, as it was past one o'clock. Without giving time for thought, top and front ventilators were thrown open to a considerable extent, and in, of course, rushed the dry, parched air, and in ten minutes the house was considerably cooled, but fully two-thirds of the foliage—all the fine, large leaves, were scorched and shrivelled up as if a blast from a furnace had passed over them.

In a similar case, about midday, the head gardener having just returned from a journey, saw at once the plants were distressed, put his head in at the door, felt, and pretty well burned his hand on feeling the pipes, turned the valve to stop the circulation, sent one lad to flood the floors and passages with water, sprinkled the beds and under sides of the leaves with water at 80°, and, having no shading handy, syringed the outsides of the roof with whitened water, and just increased the air by a little at the top. By evening the plants were all right, showing no trace of the ordeal they had passed through. The circumstances, as respects hot-water heat, and sun heat, and cold, dry external air, were so much alike that we have not a doubt that the results would have been identical in the two cases if a similar practice had been adopted. In either case, if, as the sun began to gain power, the hot-water pipes were gradually cooling, and a small portion of air had been given early at the apex of the roof, the temperature gradually rising from sun heat would have been beneficial rather than injurious, and with damped paths and evaporating basins under such circumstances we would rather have let the thermometer rise to 90°, or higher, before we would have freely admitted a cold, dry, frosty air. In early forcing, the leaves of some Vines will be apt to suffer, when, after a week or a fortnight of dull misty weather, we are favoured with even one day of bright sun. A slight shading for a little will generally obviate all inconvenience. As already stated, however, the chief securities from such injured foliage are a comparatively lower temperature at night than by day, proportioning the vapour in the enclosed atmosphere to the artificial temperature, preventing fire heat and sun heat from acting much together, and in bright sunny weather, with a keen, cold atmosphere without, giving a little air early as soon as the sun begins to raise the thermometer in the house, and then, in preference to giving much more air, allowing the sun to raise the temperature from 10° to 20° gradually above the night average, and letting it fall as gradually. —R. F.]

PIPE FLUES.

The able writer of "Doings of the Last Week" has asked for information respecting small pipe flues, or rather the smallest size which can be used for the purpose, and subsequently another inquiry from Yorkshire on the same subject has re-opened the question. As the latter has reference to building, or rather heating a forcing pit 40 feet long, no apology is wanted to enter still further into the subject of flue-heating. In reply to "R. F.," I may say that I have known a short length of 6-inch pipe used advantageously for some years as a flue, but it was an iron pipe, and the trouble of cleaning it often was such as to cause much regret that it was not larger; but, like many things of the kind, it was put in as a makeshift, and remained for many years, occasioning much grumbling every time it had to be cleaned. There may, however, be places where a flue of such small diameter may answer better than the above, and these are where only coke and wood are burned. Coals create so much soot that a flue soon becomes choked up, so that I would certainly not recommend a small one; and even for a pit where the volume of air to be heated is small, and the space the flue occupies is otherwise valuable, I would certainly not recommend that any flue pipe should be less than 9 inches in diameter inside, and more if the house to be heated is of greater cubic content. Where coals are cheap, as I imagine they are where "C. A. B." resides, a flue of this description will, I am persuaded, be a formidable rival to the much-vaunted hot-water apparatus.

As I have before stated, I would advise that only the straight portion of the flue should be of pipes, and the turnings and entrance of brickwork, with some suitable cover that could be taken off, so as to allow the pipes to be cleaned out when necessary. In small pipes or flues it is a good plan to have a copper wire in the flue, in order that a string and some sweeping material may be attached to the wire for cleaning out. In a larger pipe this is not so necessary. A bunch of Holly, followed by one of straw, is not an unusual sweeping brush; and it very often happens that the position of such flues prevents long-handled tools being applied, so that the wire left in the flue is of great service at cleaning-out time.

I have before said that it is better not to disturb the joints of cement pipes, and that brickwork, with covers, forms the corners and end pieces to the flues of the two houses I have so heated; but for "R. F.'s" information I may add that the flue to each house dips about a foot at the doorway, without appearing to suffer much in consequence, the dip being gradual and easy. The two houses, however, being together, the fireplaces are in the usual way just behind the partition, and the flues starting low cross the pathway at the partition door with their tops on a level with the pavement, and, rising easily and turning to the front, unite with the pipes, and proceed along the front, where a corresponding dip to meet the end door is made. Then, after a similar turn and rise, the front flue enters the back pipe flue, which proceeds to where it started from, and then into an upright chimney. There being only one dip at the end door, and that of about a foot, we have never felt inconvenience from it in any way. True, like all flues, there is an unpleasant smell when a fire is first lighted after the flue has been out of use for a long time; but so far as I could judge, the smell arose more from the brickwork than the cement pipes, and when once warmed it all goes off. In districts, therefore, where coal is plentiful and cheap, I am of opinion that the flue is still a powerful opponent to hot water, and especially in small structures or solitary ones. To your correspondent "C. A. B." I would therefore say, Inquire in your neighbourhood where good Portland cement pipes of not less than 9 or 10 inches in diameter are to be had, obtain one, and try it over an Arnott stove, or something of that kind, that will subject it to as great a heat as it is likely ever to encounter, and if satisfactory, erect a flue accordingly, or perhaps a smaller pipe as a trial one would be better, as it would be heated more.

The fixing of cement pipes is a very simple affair, as they are prepared with socket joints; a small quantity of cement only is required to unite them, and a rag tied to the end of a stick to smooth away any of the cement that squeezes through ought not to be forgotten, otherwise the cement would harden into an ugly protuberance. If the corner or end cover of the brick flue be laid aslant, so that it may be easily taken off to clean the whole out, so much the better. As I expect "C. A. B." will place the flue in the front of his forcing pit, he might so arrange the end pieces as to take off easily, and a wire left in the flue will be very handy.

If coke or other fuel producing little smoke be used, the pipes might be smaller, but in coal-producing countries the raw material is often the most abundant, and it is not always that those managing the fires can be persuaded to economise coal, so as to give a chance of much of the smoke being consumed before it reaches the flue. It would, therefore, be better to allow for this by having the flue large enough.—J. Robson.

CONSTRUCTION OF A FLUE.

I have read with much interest the remarks in your columns relative to heating by flues. I have had some little experience in the above matter, and perhaps you will allow me to communicate my ideas thereon.

One old-fashioned mode of constructing a flue is three courses of plain tiles, or a single course of foot tiles for the bottom, three courses of brick-on-edge for the sides, and foot tiles for the top, the interior well plastered with a mixture of cow dung and lime. The lime might perhaps be dispensed with, but in my opinion it tends greatly to make the flue smoke-tight. A correspondent in the Journal of December 16th complains of the plastering falling down through explosions. I have never found this occur, and fancy his flue must be too small, and also badly constructed, for explosive gas to collect; probably he burns coal. A golden rule in the construction of a flue is to sink the furnace low enough. No portion of the flue should be lower than the firebars. This is especially important where it is necessary for the flue to descend to clear a doorway. The furnace should be within the house, of 9-inch brickwork, and the top of fire tiles set with fire clay. It should not be too large, or the fire will fall back and will not burn so steadily as when kept in a compact mass. A furnace a foot from front to back, inside measurement, is large enough for a greenhouse 16 feet long. At the same time it can easily be reduced in size by piling up bricks at the back. Close-fitting furnace and ashpit doors are essential, the latter provided with a ventilator. Any ordinary bricklayer can easily manage the construction. I have entrusted the management of such a flue to ordinary labourers and female servants, and have always as yet contrived to preserve my plants.

My instructions for lighting are, when the fire burns clear, to add fresh fuel and shut the ventilator, which is prevented from entirely closing by a small pin. The great risk is in overheating. If the ashpit door should be left open, the furnace, furnace door, and part of the flue would probably become red hot, and the plants sustain damage. It is in this point that the hot-water system is so much superior to the flue. Many amateurs fancy that if the fire go out during a frost they are running a risk, but they need not be alarmed on this score. In a frost of perhaps a week's duration, with dull sunless days, and perhaps 5° or 6° of frost during the daytime, I have found I could always maintain a temperature of 40° during the day, though the previous night's fire has burnt out hours before daylight. Coke is the best fuel.

In conclusion, I would recommend amateurs about constructing a greenhouse to heat it by the flue, on the score of economy, and if possible to place the furnace so that it can be attended to without going out of doors; then the trouble of management will be reduced to a minimum.—Fair Play.

THE CLARKSVILLE GRAPE.

Enclosed I send you an aërial root from a Vine of the "Scuppernong Grape," growing in our yard. There are hundreds of them hanging down from the large limbs, from 1 foot to 3 feet in length, like a huge fringe. They make an annual growth of about 1 foot, most of which is killed back the succeeding winter, so that they rarely reach the ground. Whenever they come in contact with the earth they burrow in it like a mole, and throw out numerous lateral fibrous roots very rapidly. You will notice the ends of these roots are armed with a hard spur, for the purpose of forcing their way through the earth. So you will see the habit of this Vine is similar to that of the Banyan, or Indian Fig. By training the Vine so as to let these aërial roots take hold of the earth, I have no doubt a single Vine might be made to cover an acre or more of ground. The main roots put out by seedlings of the Scuppernong the first year, are in like manner furnished with this spur-like appendage, from the sides of which fibrous lateral roots grow. The Vines of this species of Grape have just finished blooming; the berries are now from the size of squirrel shot to that of large buck shot. They grow very vigorously, and will be nearly or quite grown in a month, and ripen in October.

The crop this year (1868) is very promising, and will be large if not injured by storms. This Grape is never attacked by insects or diseases in either Vine, leaf, or fruit, so that a crop is very certain.—Country Gentleman.

[The Scuppernong Grape, according to Downing, is "Vitis vulpina, Lindley; Vitis rotundifolia, Michaux, a southern species growing wild from Virginia to Florida, and climbing to the tops of the tallest trees. The species is diœcious, and too tender for a northern climate."]

GLAMIS CASTLE, FORFARSHIRE.

The Seat of the Earl of Strathmore.

(*Concluded from page* 479.)

Peaches occupy the second place of importance at Glamis, three houses situated at the ends of the long vinery range being devoted to their culture. The trees are planted in the usual manner, and trained on trellises in front, and also against the back wall, a dwarf and a rider, or 6-feet standard, alternately; the intention having been to cut away the riders, and let the dwarfs form the permanent trees. The riders, however, having at first the best position, have succeeded so well—better than the dwarf trees—that Mr. Johnston intends to preserve them, and we think he is right. We have frequently observed that Peach trees in the form of riders become the most fruitful, especially when young, as in this case. The crops in all the houses, Mr. Johnston said, had been good; at the time of our visit the fruit was entirely over. The trees were pictures of health, perhaps a little too vigorous in some instances, a tendency Mr. Johnston was attempting to check by allowing the red spider to have its fill—a questionable practice, some will say, for repressing excessive vigour, and at first sight it may seem so, no quarter to the red spider being the common watchword; yet we have ourselves at times employed the same evil agent, and been benefited.

Pine Apples are not so largely cultivated as might have been expected. The young and succession plants are grown in some narrow low brick pits, which we were rather sorry to see occupying the position they do in front of the principal plant houses. These old-fashioned structures ought to be banished from all good modern gardens, for they are only fit for growing some rough bedding plants or common Cucumbers. In the long range of three-quarter span-roofed houses, the fourth from the end, measuring 40 feet long by 16 wide, and of considerable elevation, contains the fruiting Pines, which are plunged in fermenting material in the front half of the house, there being a walk down the centre. Here Mr. Johnston had some splendid examples of Queens, which when fully ripe would average 5 lbs., and the whole stock was exceedingly healthy and sturdy, altogether in fine condition. The back part of this Pine stove is devoted to the culture of Bananas (Musa Cavendishii), planted out, having plenty of heat supplied to their roots, which, and a copious supply of moisture, seem to be the principal requirements of these fruits. The temperature, &c., of the Pine stove seem to suit the plants admirably, for here they were producing some magnificent clusters.

Another house in this range, of about the same dimensions as the last, is devoted to Figs, the trees being planted out in the borders, and grown like so many Gooseberry bushes. This idea is very good, yet we fear the result will not be so gratifying. Figs when planted out thus become so extremely rampant, that it is scarcely possible to keep them within bounds, or to make them fruitful. Here, although the plants were still young, and but lately turned out of pots, the shoots were far too gross for fruit-bearing. To fruit Figs successfully, they must either be grown in pots, or, if planted out, allowed plenty of scope, and then when aged they will bear profusely. Brown

Turkey, or Lee's Perpetual, White Ischia, and White Marseillea *alias* White Genoa, seemed to be the most productive; and Castle Kennedy, Mr. Johnston stated, bore a close resemblance to Brunswick, although larger, and positively refusing to bear in a young state.

Melons are grown to great perfection by Mr. Johnston, and occupy some of the three-quarter span-roofed houses of this range, which are particularly well adapted for the purpose. A length of about 80 feet, divided into four compartments of 20 feet each, was filled last season, three compartments with Melons, and one with Cucumbers. These houses, or pits as they might be called, are about 8 or 10 feet in height, and 10 feet in breadth, having a pathway in the centre, and in front a bed about 3 feet wide, heated by hot-water pipes below; in this the Melons, &c., are planted. They are trained to a trellis overhead, and thus magnificent crops are produced. Melons and Cucumbers have a charming appearance when grown in this way. The soil in which they are grown is the same as that used for the Vines, and it seemed to answer exceedingly well, for more healthy and vigorous Melon plants we scarcely ever remember to have seen. With regard to the soil, Mr. Johnston said it appeared to suit almost every plant, everything growing with much vigour in it, and certainly his productions did not belie the character he bestows upon it.

We now come to plants and flowers, which do not occupy nearly such a prominent position in these gardens as fruits; but they are sufficiently numerous, and, in general, so well cultivated as to form an important feature. The first two houses in the centre of the magnificent vinery range, one on each side of the middle entrance gateway, are stoves 40 feet long, 22 feet wide, and 18 feet high. In the centre of the houses is a flat slate stage, with a walk all round, and narrow stages in front. These houses are principally occupied by ornamental-foliaged plants, very good examples being present of various Palms, which we are glad to see coming so much into cultivation, Ferns, Coleuses, &c. A prettily-fruited plant of Podocarpus purpureus, with its charming light violet berries, was very striking. Planted-out and trained to the back wall were some remarkably large and fine plants of Allamandas, which when in flower must be glorious. Euphorbia jacquiniæflora grown in the same manner, had made shoots upwards of 10 feet in length, fully 4 feet of which seemed to be set with flower-buds. This is a chaste and charming flower at all times, and as the smallest portion is always pleasing, what must be these plants of Mr. Johnston's when they are in full flower? Four feet of a floral garland of this gem! Fancy a plant 10 feet in height, and as much in diameter, leafy to the ground, and full of flowers. Bougainvillea lateritia and spectabilis were also doing well, and on the roof various climbers were growing vigorously, the flowers of Passiflora kermesina enlivening the scene with their pleasant tints. Shading is provided for these houses by hanging up in the interior, close to the roof, broad pieces of thin tiffany. This when fixed in a graceful sort of festoon is very pretty, and prevents the disfigurement of the houses outside by covering them up, as is generally done, with tattered shading.

In the other range of houses, the centre three-quarter-span is called the show house, a sort of conservatory of greenhouse flowering plants, 40 feet by 22 feet in width. Here were a very fair assortment of Pelargoniums, &c., and some plants in full flower of that pretty gem Statice profusa, which is always to be seen in such abundance at Dalkeith. To the right of the show house is the Camellia house, of the same dimensions; in this the Camellias are planted-out in beds, which in a few years will prove very beautiful. Three smaller houses at the extreme end of this range, corresponding to the Melon and Cucumber pits at the other, are devoted, one to the propagation of bedding plants, another to collections of small stove plants, and the other to Heaths, &c.

We would just notice, in conclusion, that the whole of the hothouses at Glamis are heated by one boiler—a tubular saddle, manufactured by Messrs. G. H. & G. Nicoll, of Dundee. It is composed of twelve 5-inch tubes, and its length is 10 feet. The extent of piping attached, Mr. Johnston informed us, was about 12,000 feet, and the whole or any part of this enormous extent can be heated with the greatest ease. How many hatsful of coals may be required to effect this our informant told us not. Here is a boiler, however, about which little fuss is made, with the powers of a giant, and we would recommend it to the attention of our "bigwigs" in that line. We would recommend them to take a look at this before introducing any more of their multitudinous fancy forms, which serve both to perplex and to mislead the public.

We recommend our readers to visit Glamis, and see its noble Grapes; they will there meet with a kindly welcome from its talented gardener, Mr. Johnston, who is a credit to his profession. We thank him for our own kind reception. We only hope we have done justice to our self-imposed task—a task begun on a day of fog and rain, raining as it can only do (sometimes) in Scotland—a "day of real Scotch mist."

WAYSIDE JOTTINGS.—No. 3.

Early in the summer of the present year I decided upon devoting a holiday to the examination of Tallentire Hill, an elevation which, under different names, stretching from east to west, separates the valley of the River Ellen from that of the Derwent. For this purpose I left the early morning train from Carlisle to Maryport, at Dearham Bridge station, about two and a half miles eastward of the latter town. I sauntered along the banks of the Ellen for some distance without discovering much to interest me in a botanical point of view, except, perhaps, the pretty heads of Anthyllis Vulneraria, or Lady's Finger, which seemed to spring up spontaneously upon the loose banks of the disintegrated and mouldering rock which forms the slopes of the railway cuttings and embankments of the line over which I had travelled, and which runs parallel to the river for some miles towards the Maryport end. On the southern bank of the river, where the slopes are pretty abrupt, and where, in consequence of the steepness, large patches of similar débris appeared quite destitute of vegetable covering, the idea suggested itself to me that, supposing this plant possessed any value as a grazing or forage herb, it might be utilised by cultivation in such situations.

On reaching Crosby Mill I crossed the river, but before quitting its banks I stopped to admire the rugged and broken manner in which the carboniferous strata of rocks appear denuded at various points of my morning's walk along the valley. Had great upheavings of the earth's upper crust not taken place, much of the mineral treasure of coal, lime, building stone, &c., which now constitute the wealth of the neighbourhood, must have remained hidden at unattainable depths. Pursuing my walk I next ascended a ravine down the bottom of which a small brook, almost dried up at the time of my visit, flowed in the direction of the river. The slopes were covered with underwood, principally composed of Hazel intermingled with the wild Dog Rose, several varieties of which were in full bloosom. Under the shade of this brushwood I found the Sanicula europæa, Wood Sanicle, growing in profusion. A few stems of Serratula tinctoria, Saw-wort, were also springing up at intervals, though the flowers were not yet developed. At the top of the ravine, on its western side, was a patch of springy turf, the glossy green of which was relieved by spikes of the bright yellow flowers of Genista anglica, Petty Whin. Along the edge of a footpath, too, I noted an abundant growth of Plantago maritima; but its flower spikes had not made their appearance.

A little way higher up I found myself upon the high road, which I followed up to the village of Tallentire, on entering which I saw some old hedgebanks of rude stonework apparently raised by bygone generations, covered with the pretty little flowers of Geranium lucidum, Shining Cranesbill. The leaves and stems, as well as the flowers, showed a glowing crimson tinge, which contrasted well with the framework of grey lichen-covered stones, that pushed their venerable heads at intervals through the surface of the bank; all the more graceful that no workman's hammer or chisel had sought to rob them of Nature's own polish. Turning sharply to the left, and ascending a steep incline, I found myself at the white stone quarries from which much building stone is procured. The strata of rock appear much distorted, and the working of the quarry must be a task of considerable difficulty. A little way above the quarry, on the sloping bank, studded with Cowslips innumerable, I found a few fronds of Botrychium Lunaria, or Moonwort, a species of Fern occasionally met with in elevated pasture ground like that on which I was just entering, and where the soil is seldom very fertile or the herbage luxuriant. A little to the southward of the summit level I stumbled upon a bed of the pretty dwarf Dark-winged Orchis (O. natulata), just peeping above the scanty herbage of the "Tarnities," as the extensive pasture is called. Some of the clusters of imperfectly developed flowers appeared at first sight more like little maroon-coloured fungi than Orchids, such as a nearer examination proved them to be.

Following the summit level along the ridge, I greatly enjoyed the fine prospect on both sides which my elevated position com-

manded. Among the crevices of the loose rock, which cropped up here and there like the ruins of some long line of ramparts, I gathered specimens of a plant which I had not previously noticed in my rambles. This I discovered to be Poterium Sanguisorba, or Salad Burnet, a plant which I have since found growing plentifully among the crevices of the limestone rock, particularly in places where the rock had been long since excavated for conversion into lime.—H.

GARDENS AND GARDENING AROUND HAMBURG.

Whilst on our visit to the Great International Horticultural Exhibition at Hamburg in September last, which was fully reported on in our columns at the time, we took the opportunity to look around to spy the richness, not the nakedness, of the land —to visit some of the principal seats and gardens of the nobility and merchant princes of Hamburg. At the time of such a great and exhaustive exhibition as this was, embracing as it did nearly every plant and article connected with gardening, and supported, as it was, in the most liberal spirit by all horticulturists in the immediate neighbourhood, the time of our visit was so far inopportune—the main treasures of the establishments for the time being were gracing the great Show, so that much in the way of cultivation which we might otherwise have noted has on this account to be passed over.

Visitors to Hamburg by steamer are most favourably impressed with the exceeding beauty of the country surrounding. Entering on the waters of the magnificent Elbe (a river somewhat in the character of our own Humber), about seventy miles from the mouth of which Hamburg is situated, we have on the right hand, on the south, the province of Hanover—low, flat, and uninteresting, as seen from the river, with an enormous extent of forests in the distance. To the left hand, on the north, lie the Duchies of Schleswig and Holstein, which have of late years obtained not a little notoriety through the war which took place between Denmark and Prussia for the right to impose taxes upon and draw soldiers from them. These were a few years ago a portion of Denmark; now, like Hanover, they are Prussian territory. For some distance the country is flat and uninviting, but within about twenty miles of Hamburg the ground rises considerably immediately along the bank of the river, and the most lovely scenery commences, reminding one not a little of the Thames at Richmond, or rather Richmond Hill from the Thames. Here is the West End of Hamburg; here live the aristocratic portion of the great merchant city, like our own "upper ten," away from the din and bustle of money-making; and we feel bound to admit that for situation, for beauty, for shelter, and for extent of landscape, there are few such places to be met with as this delightful river's bank. Here we spy, as we speed along, a pretty little villa or two, half hidden by the fresh green trees, or maybe the Roses, Clematises, &c., which are covering its walls, and the glorious beds of Pelargoniums, &c., in front, with the grassy bank sloping down amongst the trees and shrubs to the terrace by the river's bank; there a stately mansion with its towers and steeples, its more broad and spacious lawns and terraces, its beautiful gardens and long ranges of hothouses, all, all exposed to our view. From Blankenase, the first place we touch, the most thickly populated, and perhaps the most beautiful, to Hamburg, is one long succession of these pretty villas and gardens, to visit which we must proceed from Hamburg by the high road through Altona, the town part of Holstein adjoining Hamburg, forming to the stranger part and parcel of one city, although under different government, Hamburg being as yet one of the free or Hanse towns of Germany.

NEUMÜHLEN—ALTONA,

THE RESIDENCE OF FRAU SENATORIN DONNER.

This is an extensive and most pleasantly situated place near to Altona, on the banks of the river Elbe, the grounds in some places sloping nearly at right angles more than 100 feet, and clothed with fine old trees, Oak, Beech, Elm, &c., of great altitude, and with fine clean stems for 70 or 80 feet high. These fine trees show the quality of the soil, and give a rich appearance to the place. Herr Reimers, the very intelligent obergartner (head gardener) here, speaks English very fluently, having resided some time in this country, so that Englishmen meet here with the greatest courtesy, as, indeed, is the case everywhere.

The sloping nature of the ground gives a very diversified style throughout the place, portions of the gardens being on one level and some on the other—a sort of terraced style. On one side of the mansion we have low shady dingles or dells, the tall trees overhanging, and pretty little streams of water twisting naturally along amongst the rocks, and Ferns, and Pampas Grass, and Conifers, &c., the whole being extremely pleasing. The house itself stands a little higher, overlooking the river, with its troops of pleasure boats, and huge merchant steamers, passing continuously. A small terraced slope immediately fronts the house, and it was tastefully planted with the usual bedding plants, amongst which Iresine Herbstii looked exceedingly well, and Snowflake proved the best variegated Pelargonium. Around some of the beds was a sort of festooned chain about 2 feet in height, neatly covered with a very pretty little-leaved Cucurbit named Pilogyne suavis. This is a style of ornamenting flower beds peculiar to the Continent, which we have seldom seen adopted in this country. Here a score or two of fine, green, leafy, dwarf, bushy plants, quite covered with bloom, of that much-neglected but exceedingly beautiful plant, Torenia asiatica, attracted our attention; many have given up the cultivation of this plant, owing to its tendency to red spider and mealy bug, cultivated, as it has always been, as a stove or warm greenhouse plant. Here in Mr. Reimers', and in many other gardens round Hamburg, it is cultivated with the greatest ease in pots plunged out of doors during the summer months, much in the same way as we do Salvias, and in autumn, when the flowers begin to open, removed to the greenhouse, where it flowers to perfection, and nothing can exceed the lovely appearance of its pretty blue flowers.

Another plant cultivated here in quantity for decorative purposes, and almost unknown in this country, is Hæmanthus puniceus. Its singular-looking umbelliferous scarlet flowers have a fine effect. It has been found, where tried, somewhat difficult to flower. Mr. Reimers succeeds by keeping the plants rather pot-bound, and in the cold for a time; then, to induce flowering, they are placed in a temperate house. Great quantities of small flowering plants are cultivated here for house decoration in convenient houses for the purpose. Camellias were especially fine, likewise Epiphyllums by the hundred, double Primulas, Begonias, and Salvias, of which S. Suchettii was considered a very great improvement on S. splendens.

Mr. Reimers has also the advantage of a fine orchard house for the cultivation of Peaches in pots, and most abundant were these fruits here last season. The only fault that could be found, itself a serious one, was the too heavy crop on the trees. The trees, which were of the common bush kind, in 15 and 18-inch pots, had some of them three and four dozen fruits of very fair size; we are afraid, however, that the quality would not be equally good. Quantity with quality can never be had with fruits.

We cannot notice all the interesting features of this place. We dare not, however, pass by a small but exceedingly valuable collection of sculpture in a building near the conservatory, executed by the great Danish sculptor, Thorwalsden, that of the Three Graces, in solid white marble, being considered the finest ever executed, and of a most fabulous price. Sculpture being a sister art of gardening, we recommend all fond of the beauty of form, who may have the opportunity, to view Thorwalsden's Three Graces, the most perfect model of the most beautiful form in creation.

(To be continued.)

RENDLE'S PATENT GROUND VINERIES AND PLANT PROTECTORS.

My attention has just been called to an article in your paper of the 16th inst., signed by Mr. Edward Luckhurst. In it he recommends that ground vineries should be constructed of wood and glass, because wood is cheaper than earthenware. He says that his carpenter can produce deal boards 1½ inch thick, 12 inches high at the back, and 8 inches high in the front, at 1s. 4d. per running foot. I do not know how he intends to fix the glass to these boards, but he will find a great difficulty, unless he infringe my patent rights. This idea is not a new one, because I well considered the subject in all its bearings, and my first models were made of wood, and exhibited by me at the Royal Horticultural Show, at Leicester, in the year 1868. But wood will not answer. In the first place the top groove must be at least 1½ inch deep, so that each pane of glass can be "shunted up" into it so as to free it from the under groove. His deal boards, therefore, must be at least 3 inches thick, and this will double the cost. In the next place, how does he contrive to fix his deal boards in the ground? They will not stand by themselves. He must

have four iron bolts with screws to bind them together, and these would cost about 3*s.* to every 3-feet length on the lowest calculation.

Your correspondent has evidently not seen my latest tariff, in which I offer to supply the ground vinery precisely similar to that used last summer by Mr. Rivers, of Sawbridgeworth, with 21-oz. glass, 24 inches wide, at 1*s.* 7*d.* per foot even in 10-feet lengths; but if Mr. Luckhurst will give me an order for 500 feet, I will supply him at 1*s.* 3*d.* per running foot, glass and all, and pay the carriage to his nearest railway station.

There is no comparison between wood and earthenware. Wood in boards would warp and split; wood would only last a few years, and then it must be well painted, not with two coats, as he suggests, but with at least four coats. The glass could not be fixed except by a glazier, unless, as I said before, he nullifies the patent laws. On the other hand, earthenware is, as I have shown, much cheaper than wood; the earthenware protectors are most durable, they do not require any paint or putty, the glass can easily be replaced without any skilled workman, the ventilation is perfect and complete, and, above all, the tiles retain the heat of the sun, which is slowly given out at night. I think I have said enough, and if your correspondent will only take the trouble to try them, he will find that all I have said is true.

In conclusion, will you allow me to say that I shall be happy to send a single 10-feet length to anyone who may wish to try the new system? and I am convinced that we shall be able to compete with the foreigners, and produce all kinds of early fruits and vegetables as easily and economically as they are enabled to do.—W. Edgcumbe Rendle.

ONCIDIUM ROGERSII.

The genus Oncidium is a very extensive one, abounding in an immense number of small as well as large-flowered species. The former, however, have not found much favour with the majority of Orchid-fanciers; neither can this be wondered at when there is such a vast number of really fine kinds which give double the amount of pleasure for the same outlay of trouble and care. Amongst the many fine forms of this genus which have been introduced to our gardens the one now under consideration certainly stands in the front rank, a formidable rival to even the majestic O. macranthum.

Oncidium Rogersii is a native of Brazil, but from what part of that country I am unable to say. It was introduced by Dr. Henry Rogers, of East Grinstead, in whose stove it first bloomed. It has hitherto flowered in the autumn months, but from the fact of so few specimens existing in this country, and its native habitat being unknown at present, the exact time of its flowering cannot be definitely stated. In general appearance O. Rogersii resembles O. bifolium, but upon a gigantic scale, for in the present plant the growths are as large as a pigeon's egg, and bearing upon their summits a pair of somewhat stout dark green leaves, whilst the black markings which are so characteristic of O. bifolium are found also upon the pseudobulbs of this plant. The flower-spike attains a height of about 2 feet and is much branched, bearing in the case of the specimen from which the accompanying figure was taken seventy of its brilliant flowers (A being one of the natural size), whilst other plants have produced spikes bearing as many as 170 blooms. The sepals and petals are very small, bearing indeed about the same proportion to the lip as do those of O. bifolium to the lip in that species; the lip is flat and spreading, deeply two-lobed in front, rich golden yellow in colour, and measures from 2 to 2½ inches in diameter.

It appears to thrive in the same temperature as Lælia purpurata and other similar plants, and grows admirably in a basket suspended from the roof of the Orchid house, potted in good peat and sphagnum moss, with the addition of some charcoal for drainage.

This truly grand plant is at present solely in the possession of the Messrs. Veitch, the eminent nurserymen of Chelsea, which is a sufficient guarantee for its being carefully preserved and

increased to meet the eager demands which are sure to be made for it as soon as it shall have become known to the Orchid world.—Experto Crede.

CLIMBING FERNS.

The Lygodiums are slender but fast-growing climbers; their foliage is particularly light and graceful in appearance. They so quickly make specimens, and have such a chaste and beautiful appearance, that I have often wondered they are not more generally grown. They are of scandent habit, admirably adapted for training up the rafters, pillars, or walls of ferneries. I grow some of mine a yard high, in the shape of a pyramid, and they have a most charming appearance when placed here and there about our fernery. Others I grow in baskets suspended from the roof. I have had them quite 3 feet in length, growing downwards, and as compact as when they have a pole to climb up. Some I have up the rafters of the house. Grown in either way they command attention. Some of them are noble climbers, and as such, I think, have been too much overlooked by cultivators. With ordinary care they become very luxuriant, and have a most picturesque effect. I have some which I shall shift into 1-sized pots shortly. I give them plenty of drainage; I put a large piece of crock over the bottom of the pot; I then put a layer of sandstone and charcoal; on this crocks broken very finely, then the compost—peat, loam, cocoa-nut fibre, and silver sand. In this they succeed extremely well, and have well repaid me for the care bestowed on them.

Lygodium scandens, a most lovely Fern from the East Indies, is a very fast grower. I have, in a 12-sized pot, a specimen 3 feet high, hanging over the edge of the pot and running up to a point. It would go higher if required.

Lygodium flexuosum is a very beautiful species, also a native of the East Indies.

Lygodium palmatum comes from North America, and is a lovely Fern; I have a beautiful specimen of it. To-day I thought, when looking at it plunged between Nothochlæna aurea and Cheilanthes elegans, what lovely contrasts they formed.

Some Ferns are sub-scandent in habit, and Selaginella cæsia arborea is one of the handsomest and most distinct creepers ever introduced to the Fern house. I have grown this variety as a pyramid to 6 feet high; I have also had it growing at one end of my stove, which it very soon covered. It requires to be shaded from the sun.

Sclaginella lævigata is a most splendid climber, the foliage is of a bright lustrous blue, especially when not exposed to too strong sunlight.

Selaginella cæsia makes a most beautiful specimen. I have grown it in my Cucumber house, and I have seen it at our shows, 7 or 8 feet high.

I have invariably found these gems well repay one for the care bestowed on them; they are very cheap, and I have noticed, in showing anybody round, that these were the first to be remarked. From their style of growth, they form a very pleasing relief placed at intervals in stoves or ferneries.—F. P. L.

Mr. William Barnes.—This well and long-known successful cultivator of plants died on the 22nd inst., aged nearly sixty-one. He was at one time head gardener to Mr. Haubury, The Poles, Hertfordshire, and carried off many prizes for the plants he exhibited at the Chiswick shows. Eventually he became a nurseryman and florist at Camberwell, where he died. He was brother of Mr. J. Barnes, until recently the head gardener at Bicton.

WORK FOR THE WEEK.

KITCHEN GARDEN.

All unoccupied ground should now be turned-up by rough digging, trenching, or ridging, regulating these operations according to the nature of the soil and the character of the preceding and contemplated crops. This is, however, more a month of preparation than of active operations, and much will depend upon the state of the weather. All sorts of work which can be done under cover should be well forwarded in bad weather, and hard frost will afford opportunities for wheeling all sorts of manures and composts. Look sharply after *Cauliflower* plants under hand-lights, as well as *Endive*, *Lettuces*, and *Radishes* in cold frames, protecting them with straw or reed covers, or spruce branches. If not already done seize the earliest opportunity of mild weather to sow a crop of *Peas* and *Beans*, choosing established early varieties. Some of the strongest roots of early *Rhubarb* might be covered with pots or boxes, and sufficient leaves and litter from the stable to produce a gentle warmth; this would save injuring the roots by removing them for forcing, but where there is a good stock of roots this is of little importance, and is hardly worth the trouble and litter which it causes. Prepare ground by heavy manuring and trenching for fresh plantations of *Asparagus*, *Rhubarb*, and *Sea-kale*, and remember that the ground for them can hardly be made too rich.

FRUIT GARDEN.

Pruning orchard trees will now require attention. It is a matter too frequently neglected, and the result is that the heads of the trees become so crowded with wood that a crop of fruit, except on the extremities of the outer branches, cannot be expected, and the thicket of worse than useless spray which the trees have to support, is injurious both to the size and quality of the fruit, as well as to the general health of the trees. Where this state of things has been permitted to exist, advantage should be taken of the first opportunity to give the trees a careful pruning, thinning-out the inner branches severely. In the case of large branches being cut off, the surface of the wound should be neatly trimmed-off with a sharp chisel and covered with a coat of paint. Persevere while the weather is mild in forwarding all necessary operations as regards wall-fruit trees, such as pruning, nailing, dressing, &c. Continue the renovation of old borders as opportunity offers. See that pyramid and bush Pear and Apple trees have the necessary pruning, and dress orchard trees with quicklime to destroy moss. The most effectual cure for this, however, is thorough drainage. Push forward all kinds of wheeling while the ground is in a proper state. Soils of a heavy character are improved by working and exposing them to frost.

FLOWER GARDEN.

During changeable weather like the present, little can be done as regards the regular work of this department, but where alterations are contemplated—such as making new walks, new flower beds, or renewing the soil of old ones—they should be forwarded whenever the weather will permit. Holes for planting choice shrubs or trees may also be prepared by removing the bad soil and replacing it with a compost suitable for the plants, and even where trees are planted and not growing well, the soil may be carefully removed from the roots and replaced with better material. Should frost set in cover Auricula frames with two good mats, giving air by tilting the lights whenever possible. Should the plants at any time be frozen allow them to thaw gradually, without being exposed to the action of the sun's rays. Those who have not obtained the necessary number of Ranunculuses to make up their beds, ought to do so without delay, as the period for planting will soon arrive. If the beds have not been already formed, perhaps the simplest and best way is to excavate the soil 2 feet deep and put in 6 inches of decayed cow dung, covering with maiden turfy loam to the depth of 12 inches, the remaining 6 inches to be equal parts of loam, leaf soil, and sand thoroughly incorporated. In the reserve garden, beds containing autumn-sown annuals would be the better of having a few branches of evergreens stuck into them to shade the plants from bright sunshine after frost, which has often a very injurious effect, and to protect them from drying winds.

GREENHOUSE AND CONSERVATORY.

Where proper means are allowed, the conservatory should soon be becoming gay. Chinese Primulas, Daphnes, early-flowering Heaths, and similar plants, which should be in flower, make a good display. Large plants of Rhododendrons or Camellias that have been some time in their pots or tubs, will require more attention than is generally given to them. Weak tepid liquid manure may be afforded them occasionally with advantage. In addition to keeping the conservatory gay with blooming plants, let the arrangement of the house be occasionally changed by grouping the plants somewhat differently, and adding a few striking ones for effect. Hyacinths should be protected by a frame; as they begin to grow remove the plunging material down to the surface of the soil to prevent them rooting upwards. Mignonette will require attention to keep it from damping. As with the exception of forced plants most other things are now in an inactive state, the temperature of plant houses should fall to its minimum point consistent with the safety of the various inmates; as has often been insisted on, hardly anything can be worse for the de-

velopment of a healthy vigorous growth in plants, than subjecting them to a high temperature at the present dull season. Where Achimenes are required to bloom early, a few pots may now be started for that purpose. About 40° will be a good temperature for the conservatory when not attached to sitting-rooms, and used for the purpose of wintering large specimens without plants in bloom; but where a supply of stove plants in bloom is constantly kept up from a forcing-pit, which is absolutely necessary in every large establishment in winter, the best heat is 45°. Cinerarias, which are great ornaments in this house in winter, are thirsty plants, and should be well attended to with water; they are also liable to the attacks of insects, and must be well looked after. Chinese Primroses are likewise very ornamental, and ought to be cultivated in quantity. As regards soil, two parts of rough leaf mould, and one of well-decayed cow dung, with a little sand, suits them best, and in this they like plenty of moisture.

STOVE.

All stove plants should now be quite at rest, and in that state 55° is quite high enough for them in cold weather. No more water should be given at the roots than will keep the leaves from flagging, but the atmosphere should be kept more or less moist. A high and dry temperature is much more injurious to stove plants than any cold they can suffer in a temperature above 45°. The usual mode of inducing shy-blooming plants to produce flowers is to cramp their roots. We have no such control, however, over Orchids, for if we confine their roots we disarrange their economy, and endanger the existence of the more delicate kinds; but as most of them will exist in a dormant state for many months, if moisture be withheld from their roots, we can compel them to alter their natural time of growth to suit our seasons; spring and autumn growth should, therefore, be discouraged by this means with all the shy-blooming kinds. The experiment should commence now by keeping them as cool and dry as they can bear for about six weeks, and in spring by increasing the heat as the season advances, but still withholding water till early in the summer, and then giving it only when their buds are ready to start. Young Stanhopeas are more difficult to flower than established plants, because they are more susceptible to changes of temperature or moisture. At this stage they may be made to grow in any month of the year. From now up to the beginning of May give as little water at the roots as is consistent with the health of the plants, and up to the middle of February 55° will be the proper temperature.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Weeds, Refuse, Decaying Vegetables, &c.—We have several times, as a mere matter of profit and loss, advocated the fermenting and partially decomposing all rough vegetable matter instead of burning it. In the latter case the various salts which remain after combustion are the chief fertilising substances left, and though they go in little space and act more quickly, we do not consider that for land in general they can act as fertilising agents, and in heavy land as mechanical agents, in an equal degree to such material after it has passed through a process of fermentation and partial decomposition. We can see a case in point before us every day, and would wish that our readers in general, and our agricultural readers, amateur or otherwise, in particular, would note and turn their attention to it, and either approve or give their reasons for disapproval.

No good cultivation can be carried on whilst the land is permitted to carry a crop of *couch grass*, and other rough grasses and weeds, as what supports them takes so much nourishment from the cereals which we grow for our own support, and the sustenance of domestic and farm animals. The best mode of clearing such land of couch and other grasses we do not advert to; the best time is when the land is under fallow, or under preparation and tillage for a Turnip crop, as it is next to waste time and seeds to sow Turnips in uncleaned, unworked land. It is to what is made of the large quantities of such couch grass frequently obtained that we would draw attention. Generally by harrows, forks, and baskets it is collected, with more or less earth adhering to it, in heaps, and then is burned and the ashes spread on the ground, the ashes being chiefly valuable for the alkalies contained in them; and on stiff land the soil will be more benefited by the burnt earth, or quite as much as if the same quantity of sharp sand had been added. Now, in the case to which we refer, innumerable cartloads of creeping-rooted grass had been carted off the land and piled in a huge heap; drainings from the dung and the farmyard had been poured on it, a little farmyard manure and quicklime were added and mixed with it—a little salt would have done no harm—and now, when this huge reeking fermenting heap is being turned over, it is easily seen that every bit of the couch grass will be killed and a great amount of manure obtained, only inferior to that which comes from stall-fed fattening oxen, &c., under cover. We consider that for obtaining a large heap of fertilising manurial material, this is about the best mode of turning a bad enemy into a good friend. What say our practical readers? We yearly burn what is noxious, but so far as ultimate economy in fertilising material is concerned, we think it is better to char prunings, twigs, &c., than to burn them, and that it is better to take vitality from weeds, annual and perennial, by giving them a high temperature from fermentation and decomposition, instead of burning them.

During autumn, winter, and spring, in the garden of the amateur, the cottager, with his garden close to the cottage, and in the plot of the allotment-holder, it is very common to see heaps of vegetable refuse, weeds, &c., burned into ashes, and that where manuring material is very scarce. In many villages little manure can be obtained, except what comes from the cottage and the garden itself, as for reasons into which we need not now enter many proprietors and farmers object to their workpeople keeping a pig, one of the best of good manure-makers. Under such circumstances, the cottager with his garden contiguous to the cottage has a great advantage over the holder of an allotment at some distance, as he can make so much better use of everything in the way of dust, sweepings, slops, &c., from the house, and weeds and decaying matter in the garden. We have been glad to see such a burning heap of Cabbage stumps, haulm, weeds, &c., as that was much better than having them lying about polluting the air with their gradual decay; but we could not help thinking that the ashes thus obtained were a poor substitute for a nice heap of decomposing material, the enriching properties of which had been prevented escaping, whilst much of what was fertilising could be added every day in the way of dust, suds, and slops. However the most fastidious may dislike dirt in all its forms, we should not forget that it becomes valuable when kept in its proper place, and put to its proper use. Such a dirt heap should be at a considerable distance from the cottage, if not at the farthest end of the garden. When there is no heap, a sunk barrel or a hole well puddled should be made to receive all slops and dirty water, to be kept in reserve until there is a heap, or vegetables growing to receive it at once. Such a heap is best made in the form of a parallelogram, so that one end may be pretty well sweetened and decomposed before the fresh end has begun to ferment much. On this heap the slops from the house and the accumulated rich water may be frequently poured, and a sprinkling of earth over the place will keep in most of the good properties, and prevent them evaporating, or even tainting the air. Of deodorisers, dry earth is the best and cheapest. Having the heap at a little distance from the house is so far a disadvantage, as it involves more walking to it; but then it keeps all about the homestead sweet and clean.

Some time ago, on passing several blocks of cottage buildings, we had to use our handkerchief to shut up temporarily the orifices of our nasal organ, there was such a lot of strong-scented waters making a channel for themselves by the sides of the road. We looked over the fences, and did not see a single heap or hole in the grouped gardens. We could not help thinking that that water, decaying weeds, &c., would have added some 10 or 20 per cent. to the produce, and thus done good instead of being a nuisance. One word more and we have done for the present. We have alluded to a hole for saving the slops when they cannot well be applied to the ground or heap. Partly, no doubt, for this purpose, some careful cottagers make a good-sized hole, and everything, as weeds, stumps, haulm, as well as slops, &c., goes into it to decompose together. This is, no doubt, much better than doing nothing, but we do not consider it so good as forming a heap chiefly above ground; first, because much of the best properties of the heap are dissipated in the air; secondly, because if the watery part at all preponderates, you cannot by any process of dust or earth-sprinkling prevent unpleasant exhalations; and, thirdly, the material when dug out of such a hole, is not so sweet and mellow as when taken from a heap that has stood drier, and not been subjected to anything like a fœtid morass system. We

should, however, like to have the opinion of others more experienced in making the most of all such refuse from the house and garden. In this we shall all agree, that every weed that grows in a garden, when cut up, fermented, and decomposed, will help to give vigour and luxuriance to something more valuable. The chief point here to be guarded against is, that all seed weeds, with seeds approaching ripeness, should by heat or otherwise have the vitality of the seeds destroyed, or along with the means of increased fertility we may, in the number of perfect seeds taken back to the ground, give ourselves extra labour in eradicating them. The seeds of Groundsel, Thistle, and some other weeds, are not easily killed in a fermenting heap, and if the seed in these is formed, though not half ripe, it is safest to take the tops to the burning heap. A good strong plant of Groundsel just showing flower, if merely cut up and left in a shady place, will often perfect its seeds.

Remembrancers.—It is a good thing for us that the year is divided into so many landmark periods, as thus our habits of observation are brought into play and quickened. Many a garden receives an extra clear-up, that all may be nice and clean at Christmas, and the New Year. Many a cottager who would be ashamed of such things in May and June, is in danger of having decayed haulm, refuse, and plenty of weeds in his garden in winter. When we do anything well, we are apt to forget how long it has been done. A fresh-arranged house will be looked upon as a fresh-arranged house for weeks afterwards; it may be, when it ought to be freshened up again. It is sometimes desirable not to look at every thing and place too often. We then more easily detect what is amiss. What breaks in on the everyday monotony tends, therefore, to greater nicety, and neatness, and good management. An anxious amateur, then a bachelor, had his attention directed to the glass roof of his pet house. It required no shade, there was quite enough of slime and the lower forms of vegetable life. "Dear me! what a state it is in! There must have been an ill-natured magician here. It is no time since I had it thoroughly cleaned—not a spot left on glass or woodwork." But the *no* time honestly reckoned up, turned out to be fully twelve months, and during that time, if our friend thought at all of his glass roof, he thought of it as fresh-cleaned. If a certain fair-haired fairy had merely hinted the honour of a visit, would not the glass, plants, walks, grass, and everything out of doors and in-doors, had a regular inspection and cleaning? We fear that without breaks and spurrings-up, many of us would be too like our friend with his glass. Work done to-day is too apt to be looked upon as done for days, weeks, and even months afterwards.

Earthed-up Cabbages, put dung over Asparagus in rows, and protected Cauliflowers and salading. Placed more Sea-kale and Rhubarb in heat; the first gatherings from pots were very good. Watered the Mushroom bed with cow dung water as previously stated, spawned another piece, and laid the earth on loosely at first. Kept up successions of small salading, protected Broccoli where forward, sowed Radishes and Carrots on a slight hotbed, and set a number of Potatoes in small pots on a slight bed in the Mushroom house, to start them, and to be transferred when several inches high to frames. Mice are our chief enemies to Strawberry plants, Endive, and Cauliflowers. Much against our will, we have been obliged to poison a number of them. It is bad policy to use poison in any enclosed place, and especially in a dwelling house. A dead mouse which you cannot get at, is much worse than a living one, however mischievous.

FRUIT GARDEN.

Used great care in watering *Strawberry plants* swelling and ripening fruit, especially when manure water was used. As to plants beginning to move a little, too much care cannot be taken to keep the water from falling on or lodging about the crown or bud. It is bad practice to water in or at the centre of a pot containing a plant of any kind. It often ruins fine plants by causing gangrene or spot on the stem. It is safest in every way to sail the pot round the sides. One reason why many of our best old gardeners used to have the collars of their Heath plants raised considerably in the centre of the pot was, no doubt, owing to the difficulty of getting them watered without the water being lashed against the base of the stem. The same object can be attained with the plants no more elevated than usual, with good drainage, and careful watering, making the water flood round the sides instead of falling at the centre of the pot. Those Strawberry plants we have under old sashes have just the smallest amount of bottom heat, and plenty of air in mild weather. In all *forcing* it is best to give time, and allow the rise of temperature to be very gradual. In such cases as Vines, Peaches, and Figs, after cleaning, &c., a little more moisture, either in the air, or by the slight use of the syringe, assists the buds to swell and break more regularly; but a week or two more time in bringing them to this state will not be time lost in our latitudes, where most of the processes of vegetation proceed very gradually. A gentleman well acquainted with cold northern latitudes, where almost immediately on the melting of the snow there is at once a rapid and even somewhat luxuriant vegetation, owing to the sun's power in the short summer, once asked us how it was that having heat at command we could not effect equally sudden transformations in our houses. We fear any reply we gave was far from satisfactory. We doubt if any reason could be given now much better than that "such a thing is, because it is," and experience proves that a sudden transition from a low to a high temperature is one of the best means of neutralising successful results as respects the forcing of fruit and flowers.

ORNAMENTAL DEPARTMENT.

We must refer the reader to last week for the general work of cleaning, planting, &c., the latter work likely to be stopped by frost and a rising barometer, but affording, if the frost continue, a good opportunity for carting, wheeling, pruning, cutting wood, and ice-collecting.

Calceolaria Cuttings in a cold pit are now beginning to root—quite early enough, as they will not stand quite such rough treatment afterwards, as they will need more light and air. Except where a mouse has nibbled a few, and a solitary spot where four or five close together have damped off from no assignable cause, and thus have left a few inches square empty, not a cutting has yet gone wrong, or shown signs of doing so. We should have liked as well if the general rooting had been a little later, as the plants must be kept stubbier afterwards, or they would injure each other before we could move them to temporary beds. Up to Christmas-day some beds of Aurantia multiflora which we had left out of doors were quite fresh and green, though they had had 12° of frost. How they will stand the present frost time will show.

The most forward Chinese Primroses are in full bloom, and then, and even in any case in dull weather, they are easily injured by drip, watering overhead, or even drenching the centre of the plant. Much trouble is frequently experienced with beginners in inducing them to water at the sides of the pot, so as to wet the ball without wetting the collar of the plant much or at all. In a cold house, where Grapes were hanging, we were anxious to have a number of small pots looked over, and a little water given, where needed, carefully with the spout of a small pot, but to anything but our satisfaction the standing ground was as much drenched, and the leaves as much wetted all over, as if a large watering-pot had been used with a rose, without the least idea of sparing the water. Such treatment as the above would scarcely suit anything in a low temperature, with, perhaps, the exception of Cinerarias showing their flower-stalks strongly. At all times this plant relishes a damp, cool standing place. A high temperature will cause it to bloom earlier, but a high temperature and a dry atmosphere, or dryness at the root, or very great dryness on the standing place, are fruitful sources of green fly and other evils.

Looked over cold pits and frames. The great enemy for December and the first part of January is *damp*, especially when frames such as ours are used, standing over old exhausted hotbeds, as damp is more likely to rise than when frames stand on raised solid platforms without any old decomposing material beneath them. Every bit of damped or decayed leaf should be carefully removed in a fine mild day, and all the air and sunlight possible given. In frosty days the airing should be very moderate, and chiefly at the back. The sunlight, with its heat, will not draw up the plants weakly. Plants set on ashes, &c., will need but little watering. Still the plants will want looking over; and when a few pots are rather dry, if the waterer cannot make sure of his hand so as not to give too much or spill any beyond the pot, it will be good policy to lift all the few pots out, water them outside, and when well drained replace them. After having cleaned and fresh arranged plants in pots in a frame, removing the dampish surface and replacing it with dry ashes to assist in securing a dry atmosphere, it is not the most pleasant thing to see a thoughtless wielder of the waterpot slushing them all over with a rose as if it were the month of June, and thus neutralising all the well-meant efforts to avoid too much damp. With a little of such care, plants in cold frames and pits are often less subject to damp than in low-temperatured houses, as the frames, &c., can be covered up in cold nights, and thus the plants will escape the

damping that arises from drip—the result of condensed moisture on the inside of the glass.

For similar reasons in all houses where there is a low temperature, say from 40° to 45° as the average night temperature, whilst care is taken that Camellias, Cinerarias, &c., should have enough of water, care should also be taken to spill as little on the floor and paths as possible. In general the vapour rising from the surface of the pots and floor will prevent anything approaching a too-dry atmosphere in the house. Even in nights of very severe frost it is often better to let the temperature of the house sink 5° lower, but so as to be safe, instead of raising the temperature at all above the average with fire heat, as the higher the temperature inside the drier will the air be, and the more greedily will it suck up vapour from every source, and then, as the greater the difference between the inside and the outside temperature, the greater will be the condensing power of the glass, and, consequently, if no means be taken to prevent it, the greater will be the amount of drip all over the house. From inattention to these facts, we have seen houses after a frosty night with the roofs dripping like a shower-bath. With some attention to these details, we had some fine Camellia blossoms as regularly marked all over from the drip from iron bars as if a painter had dotted them. A safe but comparatively low temperature inside, when it is very cold without, and care in not using an excessive amount of water in watering, are the simplest preventives to excessive drip from roofs, and thus economy in fuel and labour too are our best helpers. We are well aware of the importance in this respect of canvas covering to arrest the free radiation of heat from the glass; but, then, many of us are glad to have the glass without venturing to have these coverings, which prove very expensive.

We know the importance of double *glass roofs* in this respect, more especially when the air enclosed between the roofs is almost still and shut in, but that, too, has some drawbacks besides the extra expense. We are convinced that, united to the simple remedies referred to, a continuous sheet of glass without laps will be a great security from drip, more especially when by such a plan as that of Mr. Beard the glass has the means of safely contracting and expanding. But as the simplest plans will ever prove the best, we have little doubt that ere long comparative warmth and freedom from drip will be secured by using a lighter-coloured and much thicker glass, though this will involve the necessity of stronger roofs. As a general rule, it may be considered that in winter the heat thrown from a fireplace into a room sends about one-fourth of that heat through the thin glass of the window: hence the comfortable temperature when the shutters are closed. A much thicker glass, say a quarter of an inch thick, would act as a shutter, and be equally serviceable for light. Strong, thick, clear glass for roofs would admit the necessary light, and, to a certain extent, dispense with the help of canvas coverings and double roofs. This matter has not yet received sufficient attention, but it will no doubt do so, and already many are using 26 and 30-oz. glass instead of 14 and 15-oz. glass. The first expense, of course, would be greater.—R. F.

COVENT GARDEN MARKET.—December 29.

There is very little to be noticed here that is either new, useful, or curious; for we have been overstocked, and business has not been of a remunerative character. Fine Apples and Grapes continue plentiful, and among them are some fine examples for the season. Pears are sufficient for the demand; good Apples, however, are in request, the American Newtown Pippins realising high prices. The Potato trade is heavy, with large arrivals by rail.

VEGETABLES.

	s.	d.		s.	d.
Artichokes ..... doz.	3	0	to	6	0
Asparagus 100	0	0		0	0
Beans, Runner ½ sieve	0	0		0	0
Broad .... bushel	0	0		0	0
Beet, Red..... doz.	2	0		3	0
Broccoli ..... bundle	1	0		1	6
Brus. Sprouts ½ sieve	3	0		0	0
Cabbage ..... doz.	1	0		2	0
Capsicums 100	0	0		0	0
Carrots..... bunch	0	4		0	8
Cauliflower..... doz.	3	0		6	0
Celery..... bundle	1	6		2	0
Coleworts .. doz. bchs.	2	0		4	0
Cucumbers .... each	0	6		1	0
pickling .... doz.	0	0		0	0
Endive ..... doz.	2	0		0	0
Fennel ..... bunch	0	3		0	0
Garlic ..... lb.	0	8		0	0
Herbs ..... bunch	0	3		0	0
Horseradish .. bundle	3	0		5	0
Leeks ..... bunch	0	4	to	0	0
Lettuce ..... score	1	0		2	0
Mushrooms.... pottle	1	0		2	0
Mustd. & Cress, punnet	0	2		0	0
Onions ..... bushel	3	0		4	0
pickling .. quart	0	4		0	8
Parsley ..... sieve	3	0		0	0
Parsnips ..... doz.	0	9		1	0
Peas ..... quart	0	0		0	0
Potatoes ..... bushel	2	0		4	0
Kidney.... ditto	3	6		4	6
Radishes doz. bunches	1	0		0	0
Rhubarb..... bundle	0	0		0	0
Savoys..... doz.	1	6		2	0
Sea-kale ..... basket	2	0		3	0
Shallots ..... lb.	0	0		0	6
Spinach ..... bushel	2	0		3	6
Tomatoes ..... doz.	2	0		3	3
Turnips ..... bunch	0	4		0	8
Vegt. Marrows .. doz.	0	0		0	0

FRUIT.

	s.	d.		s.	d.
Apples ..... ½ sieve	3	0	to 5	0	
Apricots ..... doz.	0	0		0	0
Cherries..... lb.	0	0		0	0
Chestnuts.... bushel	8	0		14	0
Currants .... ½ sieve	0	0		0	0
Black ..... do.	0	0		0	0
Figs ..... doz.	0	0		0	0
Filberts ..... lb.	0	6		1	0
Cobs ..... lb.	0	6		0	9
Gooseberries .. quart	0	0		0	0
Grapes, Hothouse . lb.	3	0		6	0
Lemons 100	6	0		10	0
Melons ..... each	2	0		3	0
Mulberries .... quart	0	0	to	0	0
Nectarines ..... doz.	0	0		0	0
Oranges 100	6	0		12	0
Peaches ..... doz.	0	0		0	0
Pears, kitchen .. doz.	2	0		3	0
dessert .... doz.	3	0		5	0
Pine Apples ..... lb.	3	0		5	0
Plums ..... ½ sieve	0	0		0	0
Quinces ..... doz.	0	0		0	0
Raspberries ..... lb.	0	0		0	0
Strawberries .... lb.	0	0		0	0
Walnuts .....bushel	10	0		16	0
do. 100	1	0		2	0

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

Sowing White Table Maize (*Y. E. B.*).—You may sow it in 4-inch pots, sheltered from frost, as your propose. Sow during March. Any moderately fertile garden soil will do. Sow 1 inch deep. Plant out in May.

Beech Scale Destroying (*A Subscriber*).—Dress the trees with paraffin oil now, applying it to every part with a brush. Clarke's compound, 3 ozs. to the gallon of water, applied at a temperature of 160°, will also destroy it.

Flue for a Forcing Pit (*G. A B.*).—You will see what Mr. Robson and another correspondent say about flues in our present number. Should you adopt the plan recommended by Mr. Robson, we shall be pleased to hear from you how it answers.

Helleborus fœtidus (*A Subscriber*).—This native of England is commonly called Bear's-foot and Setterwort. Any herbalist ought to obtain it for you, and any florist who advertises in our Journal can furnish you with the other plant you name.

Various (*R. Ll.*).—The pipes going through a tank, and covered with iron grating, will always secure you moist bottom heat. The pipes in a hollow or chamber will always give you dry heat, which you may moisten if disposed. But for the additional expense we would say, Have the tank. Either mode will give bottom heat to what you wish to grow in the pit, but when the roof is covered with Vines you will not be able to grow much in the pit permanently. The height of such pits is best regulated by what is to be grown in them, and ease of access thereto, say 3½ feet at back, and 3 or 2½ feet in front. The mode of having the front of the house supported on piers, with 2-feet openings, will answer very well. On the whole we prefer such openings to arches. A border inside as far as the pit will be advisable, and if beneath the pit with due openings we would not object. The stems of Vines should be 8 or 9 inches from the hot-water pipes. If nearer, place a thin board between them, or wrap the stems in moss, and let it be dry. You seem to have marked six Vines to each house, which we consider a good number. We are not sure that we understand your mode of training. What we would consider the best in such a house, would be merely taking the Vine up and across the house from 15 to 18 inches from the glass. For the earliest house, two Black Hamburghs, one Sweetwater, one Trentham Black, one Royal Muscadine, one Black Muscat of Alexandria (Muscat Hamburgh), and as you want a house all Muscats and Frontignans, say White Frontignan, Red Frontignan, or Black Frontignan, two Muscat of Alexandria, and two Bowood Muscat. But for having all Muscats, we would suggest one Lady Downe's, and one White Lady Downe's. The proposed shelf round the vineries, with the walk and pit in the centre, we consider good. Slate or sparred wood will be the best for shelves. Iron becomes quickly heated and cooled, and, what is worse, soon rusts. If, however, you should prefer iron, it is best to paint merely with oil. The centre of the conservatory would be a good place for a tank of rain water, but it should be covered over, with merely a suitable opening left, and of course there must be a pipe to take away the superfluous water. The proposed mode of arranging the conservatory, so far as a stage or platform in the centre is concerned, we approve of; but we think that having an earth border all round will do away with unity of effect as respects the vinery on each side. With regard to the shelf all round, and the heating pipes, we presume beneath it—this, we think, would be the best mode in the conservatory, as thus there is no difficulty with the heating pipes. With an earth border all round for setting plants and trees on, as well as growing them there, you would require to place the pipes in the middle of the house below the stage, or they could run in a chamber beneath an iron-grated pathway. We do not enter on the heating from one boiler opposite one vinery, and the conservatory between it and the second vinery, as we presume that has all been settled. It is a good plan to place wires across the house at the distance from the glass already specified, and also to have longitudinal wires connected with them, say 2 feet apart; the wire one-eighth of an inch in diameter, or even less, will be strong enough.

One Boiler to Heat Several Houses (*Florist, Devon*).—We have no doubt that you will save fuel by having one boiler for all your houses; but as you have already three boilers to four houses, unless your houses are well situated, you might lose as much as you would gain, as there is always a risk in having eight houses depending on one boiler, as, if anything happens in severe weather, where are you? This is of so much importance, that it is now common to have two boilers, one to work in general, and the other ready if any casualty should happen with the first. We think your 30-inch-long saddle-back boiler would heat your 700 feet of 4-inch piping, if you did not require a high temperature; but

if you did so, then the boiler would scarcely have power enough. There will be no difficulty in heating all your houses by one boiler, if the boiler be placed in the lowest position, and, as you state, the lowest heating pipe is a foot or more above the top of the boiler. One of the easiest modes to do this is to take one main flow and return from the boiler to the farthest house, rising all the way a little, and then take off, by valves, others to each house to heat as you wish. We have no doubt that placing two 30-inch saddle boilers together in one furnace, and connecting their flows and returns, would give you ample power for what you want; but still, keeping in view what is stated above, instead of placing these boilers end to end, we would place them side by side, and thus have two furnaces instead of one, with one chimney; the pipes connected as you suggest, but with the means of shutting off or putting on the circulation at pleasure. Then in ordinary weather one boiler would be enough, but when wanted you could use both, and having two you would be much safer. Where anything like forcing early, or a high temperature is required, we should not like your 30-inch saddle-back to do more than heat from 500 to 600 feet of piping; but the lower the boiler, and the higher to the farthest house, the more work it will do.

Herbaceous Plants (*Herbaceous*).—Of the list of plants you forward, some of them are incorrectly named, and the spelling of some very bad. All are perfectly hardy, and snitsble for a mixed border in the flower garden. The soil, we apprehend, is not very heavy, but, on the contrary, inclined to be sandy, and well drained. If the soil were heavy they would probably not succeed. Dianthus may mean a Pink, Carnation, or Picotee, but which we cannot say. Iberis Tenoreana, white, April and May, 1 foot. "Libtus" is, perhaps, intended for Lotus corniculatus flore-pleno, yellow, June and July, 1 foot. Spiræa japonica, white, June and July, 1 to 1 foot 6 inches. Linum flavum, yellow, 1 foot, June and July, requires protection in cold situations, and a well-drained soil. Saxifraga ceratophylla may be the "horned Saxifraga," white, 9 inches, May. Aubrietia deltoidea variegata, bluish lilac or pale purple, March and April. Cheiranthus Marshalli, orange, 1 foot, March, or earlier if mild weather. Alinm variegatum, white, 6 inches, June. Statice Gmelini, blue, 1 foot, July. Primula cortusoides, deep rose, 6 to 9 inches, May and June. Physostegia speciosa, pink, 1½ foot, July.

Cucumbers Unfruitful (*K. K.*).—It is remarkable that the plants have not shown fruit before this. Some plants unstopped grow a great length before fruit is shown. Something must be radically wrong, for though the stopping would have indnced fruit at an earlier stage, allowing the shoots to grow unchecked would not necessarily bring on the sickly state of the plants. We have known plants do well under the treatment you describe, but we should not like to trust to unstopped plants for fruit. Is the soil sweet? If the plants are healthy, cut them back to near the bottom of the trellis; but whether or no, we should cut them down, and at the same time raise plants. When you see the result of the cutting-back, you will be able to determine whether it will be better to retain the old plants, or remove them and plant fresh.

Old Kitchen Garden Seeds (*A Subscriber*).—Old seeds are so uncertain of germination, that we do not advise them to be nsed. The seeds which you have by you of last year's stock will almost all to a certainty grow if they were new, or of the preceding year's growth, when you had them. As you do not know how old they are, we cannot tell you which seeds will and which will not grow; but we advise you to take a dozen seeds out of each packet and sow them in pots, placing them where there is a gentle heat, and when the plants appear you will know which are good, and you can frame your seed list or order accordingly.

Sloping Bank (*B. B.*).—To mow it easily with a scythe, or for two persons to mow it with a machine, to look well, and not burn in hot weather, the perpendicular height, A to B, being 3 feet, B to C, the base, should be 6 feet. Slopes are generally made much more steep than that, but they neither look well, nor are well suited for the growth of the grass.

Lilium auratum Potting (*M. K.*).—The best time to pot is when the stems decay. In potting, take care not to injure the roots, picking away the old soil as far as possible without breaking the roots. Potting may be done now, but better a couple of months earlier. It should not be deferred until the plants are beginning to grow, as the roots are then active, and there is a risk of their being needlessly injured; still you may pot at any other time if care be taken.

Ink for Zinc Labels (*Idem*).—One drachm each of sal ammoniac powder and verdigris, half a drachm of lampblack, and ten drachms of water, make an indelible ink for zinc labels.

Glass for Frames (*Clericus*).—21-oz. sheet glass is not too thick for garden frames, it is the most suitable for the purpose; the third quality would not burn the plants.

Specimen Chrysanthemums (*Idem*).—We shall presume that you are in possession of well-rooted cuttings in March, with single stems only, and take out the point when 8 inches high. Pot them at first in pots 4½ inches in diameter, and when these are full of roots, and before they become very much matted, transfer the plants to 7-inch and then to 9-inch pots, or, if very large specimens are wanted, to 11-inch pots. Allow no suckers until the flower buds show, and stop the laterals when they have grown 6 or 8 inches, repeating it again in July. The pots should be set on ashes in an open situation, and be well supplied with water, not allowing them to flag from want of it. When the pots into which they are last put become filled with roots, water twice weekly with liquid manure, and gradually increase the frequency of its application till it is given every day. The shoots, as they advance, should be tied out as far apart as possible, to admit air and keep the plants well furnished. Upon the tying depends much of the beauty and size of the plants. It should be frequently attended to, and be continued until the plants show for flower, and then you can dispose of the shoots with regularity. Take care that the plants do not root through the hole in the pot. Allow them plenty of room to keep them from becoming drawn to one side. Use a compost of rich turfy loam two parts, and one part old cow dung or well-rotted manure, and to every peck add a quart of bone dust. Good drainage is necessary. Do not water with liquid manure after the flower buds are as large as a sixpence. Sprinkle the plants with water overhead every evening, and after the buds show, night and morning until these expand.

Snowberry (*Tyro*).—This hardy white-berried shrub common in old-fashioned gardens is Symphoricarpus vulgaris, a native of North America.

Camellia Culture (*Camellia*).—It is not advisable to repot and cut-in the head at the same time. Were the pot full of good roots we would advise an opposite course; but as the soil is bad, the plants so overpotted, and the roots in bad condition, first take away all the old soil possible, saving every piece of good root, and then repot in the smallest pot the roots, &c., will go into, draining well, and using equal parts of sandy fibrous loam and heath soil with about a third of silver sand, the object being to obtain good roots. Plunge these pots into a sweet hotbed that will give a bottom heat of 80 and a top heat in the house of from 50° to 55°, the first object being to secure good and fresh roots, and for this purpose the head should be kept rather cool and syringed to encourage the rooting. When you find the roots growing freely and strongly, and reaching the sides of the pots, then prune in the top likewise, and gradually raise the atmospheric temperature to 70° or 75°, with atmospheric moisture in proportion. The mode you propose for taking water by means of a tap and small pipe into a gutter will answer, only if you wish the water to circulate in the gutter the return pipe at the farther end should communicate with the return pipe and not the flow. The gutter must be properly arranged for the purpose, or it will overflow if the tap be not nicely regulated. From the position of your pipe you might easily fill the gutter from the one pipe, and then shut the tap. Of course you would thus have hot water in your gutter at once, but so much cold water must be added to the main pipes and boiler. With gutters fixed on the warm pipes you will have plenty of evaporation by merely keeping them supplied with water.

Vine Shoots (*A Working Mechanic*).—We see nothing the matter with the wood, unless having rather too much pith. The wood is not large, but still it would bear well, as it seems firm, though we like to see little pith. The joints being without buds is a different thing, and that and the pith are most likely to arise from one of two things—want of drainage in the border, or want of moisture in a dry summer. With such a light border it would be well to mulch with something rich in summer, and if secure of drainage give the requisite moisture. You can have any back numbers free by post for 4*d*. If many were wanted you could order them through a bookseller, or have them sent by rail. We can recommend the "Vine Manual," which you can have from our office for 2*s*. 8*d*. in stamps.

Cherries for South of Scotland (*A Poor Lady*).—The two standards should be Black Hearts, the pyramid Belle d'Orleans, and the wall tree Black Tartarian.

Names of Fruits (*R. Pinches*).—Your Pear is Arbre Courbé. (*T. R.*).—Your Pear is the Croft Castle. (*C. C. E.*).—2001, Dumelow's Seedling; 2004, Russet Sweeting; 2005, Federal Pearmain; 2006, Holland Pippin; 2009, Rymer; 2010, Royal Codlin; 2011, Tower of Glamis. Others unknown and in bad condition.

Names of Plants (*Foxgrove*).—The Conifer is Pinus Smithoana. There is a plant called Grislinia littoralis, but we cannot identify it without seeing a flower. (*Subscriber, Southampton*).—Chimonanthus fragrans. (*Doctor*).—Zygopetalum Mackayi. (*A. B. A.*).—We believe your supposed Fern to be Pedicularis sylvatica. Are not your supposed spore-cases so many patches of a small parasitical fungus? (*D. M.*).—Adiantum pedatum, Doodia lunulata, a Polypodium (send us a better frond). Davallia novæ-zealandiæ does well under greenhouse treatment, whilst among others to suit you may be named D. canariensis and pulchella. The plants known as Leucostegia immersa and L. pulchra, now included in the genus Davallia, are very beautiful and do well in a greenhouse. Ferns mature their spores at different seasons, each according to its species. Collect the spores as soon as matured, and sow immediately afterwards. (*Wm. S*).—1, Catasetum tridentatum; 2, appears to be Epidendrum dichromum; and 3, E. reiculare. (*Filices*).—1, Selaginella Braunii; 2, Pteris cretica albo-lineata; 3, Polypodium arcolatum; 4, Hypolepis tenuifolia; 5, Pteris cretica (typical form); 6, Nephrolepis exaltata. (*J. B.*).—We take your Cattleya to be a very fine form of C. granulosa.

METEOROLOGICAL OBSERVATIONS in the Suburbs of London for the week ending December 28th.

Day.	Barometer.		Thermometer. Air.		Thermometer. Earth.		Wind.	Rain in inches.	General Remarks.
	Max.	Min.	Max.	Min.	1 ft. dp.	2 ft. dp.			
Wed... 22	29.609	29.432	42	32	44	43	N.W.	.00	Cloudy and cold; densely overcast; overcast.
Thurs. 23	29.736	29.732	47	36	43	42	N.	.00	Overcast; very fine; densely overcast and cold.
Fri.... 24	29.926	29.922	42	28	41	41	N.	.00	Overcast; very fine; clear and fine at night.
Sat.... 25	29.755	29.450	38	17	39	40	N.E.	.00	Overcast, sharp frost; fine; clear and frosty.
Sun... 26	29.497	29.446	38	18	37	39	N.E.	.00	Sharp frost; clear and frosty; clear and cold.
Mon... 27	29.791	29.568	37	17	37	38	N.	.00	Frosty fog; overcast, snow; clear and fine.
Tues.. 28	29.981	29.848	38	11	36	38	N.W.	.00	Sharp frost; very fine; clear and very frosty.
Mean..	29.756	29.628	39.57	22.71	39.57	40.14	...	0.00	

POULTRY, BEE, AND PIGEON CHRONICLE.

NOTES ON THE BRAHMAS OF 1869.

During the past twelve months I have received so many letters of inquiry on different points from readers of my communications on this breed some time since, under my old signature of "Nemo," that I have thought a few later notes may not be unacceptable. I do not go into personal details, but simply record my impressions of the progress and present state of the two varieties, as they appear generally to one who is at all events a careful and loving student of them both.

First, they are both making way. I have always regarded the Brahma, not as by any means a perfect fowl, or in all circumstances even the best; but still as, on the whole, the "Shorthorn" among poultry breeds. Time is justifying this. In numbers they now stand either nearly or quite at the head in most poultry shows.

During the past year the birds have perceptibly gained in size. When I formerly wrote, I had to ask that more attention should be paid to this point. Such a hint would not now be needed. Many birds have been shown this season really enormous. Mrs. Hurt's second-prize Dark cockerel at Birmingham weighed 11½lbs.; one of my own weighed 11lbs.; and I am sure there were at least a dozen over 10lbs.; one of the pullets weighed 9lbs. This could not have been said even twelve months ago, and I am glad to record that we are getting back to the standard of the grand birds formerly shown by Mr. Teebay. I hope yet to see a cock that shall weigh 20lbs.

Leg feather, too, is coming back, and I am glad to see it. Very often, no doubt, hocked parentage has been employed; but hocked cocks may be bred from without injury, if used with judgment and caution. In too many cases plucked hocks still appear; but I am glad to be able to say that the judges nearly always detect them now, and the fraud does not pay.

On the whole, I think the Light variety has improved the most during the past twelve months, probably because—Will Messrs. Pares and Crook pardon me, I wonder?—they stood in most need of improvement. They are larger, shorter on the leg, much better in feather, and infinitely better in combs. The cocks, too, show more of that intangible but valuable quality called "style." It is pleasant to see that some of this work has been done by new exhibitors, with ladies in the number. There never was a year I remember so many new names added to the best class of competitors in all breeds; and those of older standing whom they have beaten in the friendly fight, will be those who will bid them most hearty welcome to the poultry fancy. There will be "cutting" work in "Lights" next season.

I make two remarks on the Light variety. The first is, there is some approach to yellow in the cocks of late—let this be shunned. The second is, that it seems to me both breeders and judges are now looking after rather more stripe or colour in the cockerels than formerly. I quite agree, for plenty of marking is half the beauty of Light Brahmas. They are *not* White Cochins. I give my own impression from seeing the classes and the judging. I may be wrong, but breeders will do well to at least bear the suggestion in mind in analysing the judging for themselves, as all good breeders do, and, if I am found correct, to choose their stock accordingly.

Many of the Dark birds this year have shown too much length of leg. I would never be too particular about short legs in a cockerel. I like a fine bird to have legs, but I have seen a good many really beyond moderation. It is a dangerous fault, as I can say from personal knowledge, it leads to coarseness of flesh. Moreover, it is much harder to "breed out" than it is to bring in. I hope breeders will beware, and keep within bounds.

Fashions change, even in poultry, as I have often been amused to see. The brown colour in Dark pullets some exhibitors used to like, is just now quite "out of court," and even the light Silver-Grey has hardly been seen this year, while the "newest style for the season" seems to be what I may call a "dead grey." My own individual fancy has always been for the darker, rich, green-black pencilling Mr. Teebay used to breed; but I do not dislike this. Many of Mrs. Hurt's pullets show the dead grey colour to perfection. The splendid grass run her birds have does wonders for them, and they are hard to beat.

In Dark cockerels and cocks I have been almost pained to notice a most serious fault, in the shape of a nasty yellow tinge. It was disagreeably evident even last year, but this season has increased to a very great extent; the hackles and saddles of at least half the prize birds, instead of the beautiful silvery white we used to see, being of a dingy yellow, like a very dirty Canary. I did not precisely agree with Mr. Boyle in every point of colour, but he certainly did almost always show cockerels of a beautiful silvery white, which is only too rare this year. I venture to ask the attention of the judges to this great blemish, feeling quite sure that if not checked, one of the chief beauties of the breed will soon be lost, not to be easily regained. The yellow I speak of must not be confounded with the effect of the sun, which will tan all birds as the plumage gets old, but which ought to show little effect at this time of year. It is singular that the yellow in the cocks has come in simultaneously with the "dead" grey of the pullets; and it is worth inquiry whether there may be any connection. I am inclined to think not; but if there is, I venture to say, that to sacrifice the beauty of the cocks for the sake of the pullets will be found a great mistake. I only note the fault as a serious and unsightly one, asking the attention of both breeders and judges to check its increase.

White in the tail has also, I am sorry to see, much increased among Dark cocks, and I have a shrewd suspicion whence it comes. I think myself this fault should be *almost* a disqualification. I do not say quite, because to disqualify absolutely a fine fowl for anything but real deformity is always injurious. But it ought, in my opinion, to count seriously against a bird, and I would never keep a cock in my yard that showed it. Dorkings are never considered birds of feather; but certainly Brahmas are, the pullets being chiefly judged by their plumage, and if so, a fault so utterly disgusting as white feathers in a tail which should be all black ought never to be tolerated. It is worse, too, for the very strong tendency to be hereditary. The fault never in my knowledge occurs, except there has been a cross from a strain already tainted with it; and so far, I have been able to trace nearly every case to a cross more or less remote from the stock of one particular yard some years back. Let this induce breeders to be careful how they introduce it.

I only remark, finally, that there has been some tendency shown of late by a few judges to judge Dark pullets too much by colour alone. The Brahma is a breed which should have not only leg-feathers, but fluff and cushion, without which it is as inferior as a Cochin would be similarly deficient, although the conformation is, of course, quite different. I have seen, however, with regret lately, many pullets win prizes apparently for their colour, which had no more of either fluff or cushion than a Spanish fowl. This is an error especially calculated to mislead beginners who purchase prize birds; and with this caution, therefore, I conclude my notes on the more striking peculiarities I have observed in "The Brahmas of 1869."—L. Wright.

POULTRY-SHOWING.

Will you permit one who has hitherto been an outsider to say a few words on the most unseemly strife that has been going on for some time in your columns about members of committee showing, and about the whole subject of poultry exhibitions? "Fie, gentlemen!" I would say; "shame to bandy about such charges! Positively, it would seem from your statements that exhibitors, committees, and judges were all a company of the most arrant rogues going; and I could only hold up my hands in astonishment to see the snarling and ill feeling that pervaded the letters written." I know nothing of poultry-exhibiting. I once reared fowls and rejoiced in my yard; and I have now commenced again, and won my spurs at our East Ashford Show with a fine pen of Crève-Cœurs; but I declare the pages of the Poultry Chronicle are enough to frighten one from exhibiting—that is, if one believed the statements, which I honestly confess I do not. I do not think my fellow countrymen are such rogues. And now for the moot point of committeemen exhibiting. I do not think there ought to be a second opinion on this point. It seems a fine notion, forsooth—(mind, I am not a committeeman), that the gentlemen who are interested in poultry in a neighbourhood, and spend their time and money in organising a poultry exhibition, should be subject to the annoyances and inconveniences which are inseparably connected with such things, and then for some lazy *dolce far niente* neighbour, who will take no trouble and give no money, to come in and take off the prizes because those most interested in it were shut out. Who ever heard at

a flower show of any proposition for excluding committeemen there from exhibiting? If such were attempted, I know from long experience that there would not be a provincial show in the kingdom; and if this rule were adopted poultry shows would soon become things of the past.

But people are dissatisfied, and think there is unfairness. There are very few beaten men who can take a beating comfortably; they must tell you how their shoulders ache, how sore their back is, how very sharp the whip comes. I have seen something of this at flower shows. I have seen a man white with rage, not because he did not get a first prize, but because another received an equal first with him. Therefore I count these complaints as very little worth. There is one thing which people do not take into account, and that is the individual tastes of a judge. What I mean is this, that although there may be certain well-defined points which every judge must acknowledge, yet there is still a margin, in some classes at any rate, to pave the way to differences of opinion, and consequently differences in judgment. I would never think of questioning the honesty of a judge, although I might question his judgment, and I would never allow an appeal against his decision unless in a case of proved unfairness in the exhibitor.—D., *Deal.*

GAME FOWLS.

I THINK that the present breed of Game fowls as represented at poultry shows has degenerated in many ways from the old-fashioned breed. Many of the desired points cause the fowls to lose both pluck and constitution. A long snake-like head and a fine neck are necessary for prize birds. This has the effect, speaking phrenologically, of causing the Game bird to lose the organ of combativeness, for a thickish neck and a certain breadth at the back of the skull distinguish all fighting animals. Again, length of limb, in order to make the bird show in the pen, is sought after; and to attain this the weedy cockerels and pullets are saved—birds which have a tendency to be delicate, and so the constitution of the breed becomes weakened. The feathering must be very short, close, and thin, with a small tail. Now, to get the feathering short and thin it requires a slender type of bird, but on good stout birds it is easy enough to have the plumage short and close, but not thin. People who have been used to seeing good-coloured cockers' birds, when they see an exhibition bird on his run consider him an ugly long-legged animal; but the eyes of exhibitors and the judges have become used to the present type of bird, and if they see a good stout cockers' bird in a pen beside any exhibition bird it is thought a coarse bird not worth looking at.

The exhibition Game fowl has lost so much constitution that it is not a really valuable farmyard fowl, as the chickens are so delicate and difficult to rear. People say that sending birds to shows ruins the constitutions of the various exhibition breeds; but the true reason is, so many weak-constitutioned birds are saved for particular points, that in time the whole breed begins to lose its stamina. I think that if judges only judged them as the type of the old fighting birds, instead of mere cage birds, the birds would be hardier, more useful, and not less handsome. —CHARYBDIS.

A FEW WARNING NOTES.

"TRAVELLERS see strange things" is an old saying, and I may add, hear strange things. At Birmingham Poultry Show, in the yard and at the hotels, I met and talked with, and heard talk, many exhibitors—I wish I could say fanciers, but they were so few that I think it will not be a very wrong designation; for several of them in my opinion had no pretensions to such honour. I remember the time, and it is not so long ago, when men, and women too, kept poultry and Pigeons for the very love of them, looking at their beauties with delight, and priding themselves on the purity and excellence of their particular breeds—one celebrated for his gallant Game, another for his heavy Dorkings, another for his superb Cochin fowls. Then, again, the real Pigeon-fancier, who would exhibit with a glow of pleasure the birds bred by himself, and which no money would induce him to part with. But, alas! what did I hear at Birmingham? Where is the honour gone? Now it is all for profit, and money prizes, and cups. But in what way, too? I heard of borrowings and lendings, of buyings and sellings, of pluckings and weedings, of colourings and clippings, until I was fairly disgusted. Here are men getting prizes for borrowed birds, and soon after we see advertised, "Birds same strain as those which took first prize at such and such a show." Then there is a cup offered, perhaps, at certain shows for the winner of the greatest number of prizes in the poultry, and another in the Pigeon classes. Where do these go to? Why, to the one who can and does borrow the most birds in many cases, and so the good (though not overstrong as regards numbers in the way of varieties) fancier goes to the wall. It ought to be worded in the schedule of prizes, "A cup to be awarded to him who can *borrow* the most birds."

But, as I have said before, the mischief does not end with the show, for other birds are sent out often from the yards and lofts of those exhibiting, with a statement that they are of the same strain as those exhibited—in poultry I may add eggs—when in reality they are no relation whatever, but often bought for the purpose afterwards. I heard of one man whose birds took prizes and were claimed, and who straightway went and bought others and advertised them as "Having some birds left," &c. Said some true fanciers to me, "We shall give up showing if this sort of thing is going to continue." Speaking to one of the Judges, I asked, "Did you find any trimming this time?" "Why," replied he, "if all the feathers could be collected that have been drawn from the poultry and Pigeons shown I should have a respectable feather bed."

I have read much that has been written by exhibitors against poultry committees and judges; but it is my decided opinion that if they were not more earnest for the welfare of the poultry and Pigeon fancy than many of the exhibitors, poultry and Pigeon shows would soon come to a miserable end.

At Birmingham I heard that already men were beginning to lay plans for borrowing for the London Show on the 15th of January at the Crystal Palace; and I sincerely trust, and I earnestly hope, for the sake of the honour and well-being of the fancy and in justice to all, that these men will find—though they seek never so much—that these men will find no lenders.

I write the above "without prejudice," and it is addressed "to all whom it may concern."—BLACK DOMINO.

TO THE COMMITTEE OF THE LONDON POULTRY SHOW.

PRAY listen to my complaint. I am an ill-used bird. There are my pied cousins, Mr. and Mrs. Houdan, honoured by a separate class, while I am huddled in with any other French variety. Any other, indeed! Hear what my friend M. Jacques says of me in "Le Poulailler:"—"This admirable race produces certainly the very best fowls that appear in the French markets. Their bones are lighter; the flesh firmer, shorter, whiter than those of the Houdan. The Crêve-Cœur is the chief race in France for the delicacy of its flesh, the ease with which it is fattened, and its earliness; and I think that it is also the first race in the world from these points of view." And yet I am put in "any other class." I can say no more. My crest is up, my anger great, and I can only add that I am—AN INDIGNANT CRÊVE-CŒUR.

COMPETING COMMITTEEMEN.

I NOW understand what "ALIQUIS" meant to say in his former letter about local cups and the "contingency" connected with them. He states in last week's Journal that "the local cup is far beyond his (the foreign exhibitor's) reach by being made local." He ought rather to have said that the outside or foreign exhibitor is excluded from the local cup. The words quoted above have no other meaning. The inference, then, to be drawn from this is that in all cases where a local cup is offered there should be a general cup in the same class, to which the local cup stood second; otherwise, good birds from other neighbourhoods must necessarily be excluded also. Are local cups offered side by side with general cups as a rule? They are not. If they were, surely in the interests of poultry-breeding generally, and financially as regards shows, it would be more advantageous to give the money, which would otherwise be devoted to local cups, in cups for other varieties, in order to draw more entrance fees, more exhibitors, and finer birds. As for the honours of local cups, I have no sympathy with Tritons amongst minnows. As to the probationary use of local cups, the "contingency" mentioned by "ALIQUIS" of winning both cups, shows that the All-England-cup is, after all, the test.

"AN AMATEUR," quoting my words, tries to turn them against me. He says, "To carry the idea a little further, a successful exhibitor also becomes a hireling of the committeemen on his receiving a prize in open and equal competition." Surely "AN AMATEUR" knows the difference between a fee and a prize, that the former is compulsory,

that the latter is not so. A fee is a stipulated payment of some kind or another for work performed, the fulfilment of which the labourer can enforce by law if his work has been properly done. But the competition for a prize implies no such engagement, neither can the competitor enforce the award of the prize to himself, even if he may have fulfilled the conditions attached to the prize which has gone to one less deserving. Without a wage and the condition of service inseparable from it, where is the hire? And without the hire, what becomes of the alleged hireling? If all men were honest, it would matter but little what position they hold; but as it is not so, there ought to be no vantage ground in competition, even if those having it will not condescend to use it. But if committeemen will claim that vantage ground amongst exhibitors in consideration of their services and expenditure, then they hire themselves to exhibitors for the inadequate wage, I grant, of the chance of obtaining prizes; and so, many become hirelings in the strict sense of the word, which the outside exhibitor can never be, even if he have the spirit of a hireling. Exhibitors unconnected with the official parts of shows are not more honourable than those connected with them. But this is no argument against my view. Opportunity may soon offer itself for strictures upon them quite as strong as those I have directed towards exhibiting committeemen.

"An Irish Committeeman" says, "If a committeeman in his capacity of unpaid official were precluded from exhibiting, he would have but two alternatives—namely, either to lose in a great measure the pleasure he has in producing good birds, or to resign his position as committeman." Surely the "Irish Committeeman" must mean that the committeeman has only one alternative, which offers the choice of two things, one of which only he can take as an alternative. But let that pass. I would not have noticed it had not the "Irish Committeeman's" letter assumed that he was settling the whole matter. My answer to his dilemma is this, that if the committeeman had no other show open to him he might have some appearance of reason in his complaint; but as this is not the case, he has not any sufficient reason for losing the pleasure of producing good birds. As well might a man say that he lost pleasure in bringing up his children, because he might not live to see the result. If, on the other hand, he covets the distinctions which a local show will afford, then I can see no hardship in his ceasing to hold an office which is arduous and expensive, and, I fear, often thankless. As to the likelihood of shows decreasing if committeemen ceased to compete for prizes, it must be remembered that the numbers of committeemen who compete for prizes is a very small minority, and that in proportion as shows increase it will become smaller, because the increase will afford committeemen greater opportunities of exhibiting their birds.

It only remains for me to remove an objection which has been urged by several of your correspondents who differ from me. It is stated that I cast a slur on the characters of committeemen and judges. Let me state most distinctly, that collectively I look upon both as painstaking, liberal, and honourable men, to whom exhibitors are much indebted. It is as absurd to say that I cast any slur upon the characters of committeemen and judges, as it would be to say that the recent reforms in the law by which clients are benefited are an insult to the reputation of lawyers.

Mr. Wright thinks that I felt the force of "An Old Committeeman's" supposed cases, and he puts them anew and in more definite terms. He supposes that at Birmingham Mr. Mapplebeck's and Mr. Tomlinson's Buff Cochins had been debarred from competition, Mr. Lane's Spanish at Bristol, and so on; and he concludes that an inferior standard of beauty will be held up for imitation. I certainly did not feel the force of these suppositions when they were first put, and I do not now, even when they are re-stated in more definite terms. The only inference I can see is, that those exhibitors who are unknown, and to a certain extent untried, would fear to venture against such tried competitors; and that, particularly in neighbourhoods where there is but one great breeder of any distinct variety, the standard would thus be lowered instead of being raised. When the race is easy the racer is apt to become careless, hence the great advantage of increasing the number of shows, and particularly large ones, such as Birmingham, Manchester, the Crystal Palace, &c., where local giants are not, by reason of their fame and strength, likely to have it all their own way.

Mr. Wright, speaking of the probability that if committeemen were excluded from competition they would resign their office, says—"I repeatedly notice that in most cases the withdrawal of a name from the ranks of exhibitors is followed by retirements from committees also," and he cites a case at Bristol this year. But this has nothing to do with the subject. It will not do to illustrate local cases by general instances. A committeeman is asked that he should not compete at his own local show, but is left free to do as he likes at all others. This is not excluding him from general competition, or causing him to cease to be an exhibitor: therefore, the inference which Mr. Wright would draw falls to the ground as applied to local exhibitors.

Have good judges, says Mr. Wright, and we shall have good awards. Of the two gentlemen he mentions, Messrs. Hewitt and Teebay, I will venture to say that they are not only good judges, but good, honest men. Speaking of them as judges, how could Mr. Wright be led to remark upon "the readiness of these gentlemen to oblige where they can?" There is, necessarily, so intimate a connection between the judges and the working committeemen, frequently a pleasant and social intercourse on the evening preceding the show—which I would not, however, see broken up—that the strongest and most Spartan will might be led to look with favour on birds, concerning which few exhibitors, however honest, would be capable of holding their tongues in a general chat on those subjects uppermost in their minds. This is coming to the root of the objection to competing committeemen. There ought not to be any opportunity to oblige. The very disposition to oblige is dangerous. In this sense Messrs. Hewitt and Teebay are, I have, no doubt, most disobliging. But it requires a very stern will and clear brain to keep out of the difficulty. Cases of positive fraud are, I hope, few and far between. It is admitted, however, on all hands that they do exist, not only in committeemen, but also in judges and exhibitors. Whatever removes the opportunity is most to be desired. At present I touch only one of the above classes, but I seek to remove the opportunity which exists there. Public judging will not do it. That would only increase the difficulty of getting through the already too arduous work which judges have; but private judging should be private, and no committeeman should, under any circumstances, accompany the judge or judges during their examination of the pens, and, above all, a competing committeeman.

Mr. Wright's suggestion for a set form of words charging committeemen and judges with unfair practices where these are supposed to exist, "simply to state the facts," as he calls it, must have been written in a hurry. In the first place, who is to make the charge? Who is to decide that the person making the statement is not ignorantly wrong or knowingly malicious? What is there in the *fact* that exhibitor A conversed with judge B which can be taken as evidence? And can the statement concerning prizes, "evidently not deserving them," be called a *fact*?

I will make a proposition to meet the case. It is this—Let committeemen exhibit at their own shows free of all expense, their pens being marked, "Not for competition." All that is contended for and required by your correspondents will then be obtained. A standard of excellence or beauty will be kept up. The exhibiting committeeman will have a pride in displaying his birds before those persons who will know very well whether they are better or worse than the prize birds. Exhibitors would appear before him who never would have appeared against him, and both might be benefited by the opportunities of comparison. Except in direct and secret fraud, over which the judge has an entire control, there could not be any unfairness in the awards. Committeemen would be beyond suspicion, and judges beyond the opportunity of "obliging."

It will require stronger arguments and more able advocates than have yet appeared to cause me to alter my convictions on the subject of competing committeemen, yet to those who have appeared against me let me hold out the hand and wish them in all sincerity a merry Christmas and a happy New Year.—Egomet.

[We think this controversy may now close.—Eds.]

DURHAM POULTRY SHOW.

The following are the awards made at this Show, held on the 21st and 22nd inst.:—

Dorkings.—1, J. White, Warlaby, Northallerton. 2, W. Bearpark, Ainderby, Northallerton. *Chickens.*—1, J. Shorthose, Newcastle. 2, J. White.

Cochins (Cinnamon and Buff).—1, G. H. Procter, Durham. 2, J. Shorthose. *Chickens.*—1, G. H. Procter. 2, J. Shorthose.

Cochins (Any other variety).—1 and 2, G. H. Procter.

Spanish.—1, H. Wilkinson, Earby, Skipton. 2, W. Elliott, Bishop Auckland. *Chickens.*—1, A. Wilkinson. 2, W. Watson, jun., Darlington.

Brahma Pootras.—1, W. J. Robson, Newcastle. 2, R. Moore, Hetton-le-Hole. *Chickens.*—1, J. Shorthose. 2, L. H. Ricketts, Banwell.

Game (Black-breasted and other Reds).—1, Buglass & Williamson, Carrville. 2, T. Horne, Tow Law. *Chickens.*—1, J. Watson, Knaresborough. 2, J. Wilson, Whitworth Woodhouse, Spennymoor.

Game (Any other variety).—1, J. Gibson, Stanhope. 2, J. H. Dawes, Birmingham.

Hamburghs (Golden-spangled).—1, W. Bearpark, Ainderby, Northallerton. 2, T. Mitchel, Mount Pleasant, Crook.

Hamburghs (Silver-spangled).—1, C. Armstrong, Bedlington. 2, G. Stalker, West Sleekburn, Morpeth.

Hamburghs (Golden-pencilled).—1, W. Bearpark. 2, W. Hall, Sleekburn.

Hamburghs (Silver-pencilled).—1, R. Parson, Morpeth. 2, T. H. Readman, Whitby.

Polands (Any variety).—1 and 2, G. H. Boothby, Louth. *Chickens.*—1, C. Walker, Boroughbridge. 2, G. H. Boothby.

Game Bantams (Any variety).—1, Bellingham & Gill, Burnley. 2, W. Dixon, Sunderland.

Bantams (Any other variety except Game).—1, G. Atkinson, Croft Station. 2, W. H. Tomlinson, Newark.

Ducks (Aylesbury).—1, W. Stonehouse, Whitby. 2, S. H. Stott, Rochdale.

Ducks (Any other variety).—1, E. J. Jones, Pasten, near Whitehaven. 2, S. H. Stott.

Selling Class (Any breed).—1, G. H. Procter. 2, T. Powell, Knaresborough.

Turkeys (Any variety).—1, Mrs. Turnbull. 2, Mrs. Minto, Hetton-le-Hole.

PIGEONS.

Tumblers (Almond).—1 and Medal, J. Fielding, jun., Rochdale. 2, F. Graham, Birkenhead.

Tumblers (Any colour).—1, J. Fielding, Rochdale. 2, F. Graham.

Carriers.—*Cocks.*—1 and 2, E. Horner, Harewood, Leeds. *Hens.*—1, E. Horner. 2, W. Massey, Spalding.

POUTERS.—*Cocks.*—1, E. Horner. 2, H. Brown, Walkeley, Sheffield. *Hens.*—1 and 2, E. Horner.
BARBS (Any colour).—1 and Cup, E. Horner. 2, J. Fielding, jun.
TRUMPETERS (Any colour).—1, W. B. Van Haansbergen, Newcastle. 2, E. Horner.
FANTAILS (Any colour).—1, E. Horner. 2, F. Graham.
JACOBINS (Any colour).—1, E. Horner. 2, W. B. Van Haansbergen.
TURBITS (Any colour).—1, E. Horner. 2, C. Vaux, East Boldon (Yellow).
OWLS (Foreign, any colour).—1, J. Fielding, jun. 2, W. R. & H. O. Blenkinsop, Newcastle-on-Tyne.

SELF-SUPPORTING.

OWLS (English).—1, H. Brown, Sheffield. 2, W. R. & H. O. Blenkinsop.
DRAGOONS.—1, J. Parnaby, West Sherburn. 2, J. Richardson, Seaham.
ANTWERPS.—1, G. Sadler, Boroughbridge.
TUMBLERS (Common).—1, J. Hawley, Bingley. 2, E. Horner.
BALDS AND BEARDS.—1, J. Fielding, jun. 2, F. Graham.
MAGPIES.—1, W. R & H. O. Blenkinsop. 2, F. J. Leach, Middlesborough.
NUNS.—1, W. Bearpark. 2, C. Vaux; F. Graham.
ANY VARIETY.—1, E. Horner.
SELLING CLASS.—1, J. Cundale, Ripon. 2, J. Robinson, Darlington (Nuns).

CAGE BIRDS.

BELGIANS (Clear Yellow).—1, J. N. Harrison, Belper. 2, J. Buglass,
BELGIANS (Clear Buff).—1 and 2, J. N. Harrison.
BELGIANS (Yellow, Variegated, or Marked).—1, J. N. Harrison. 2, J. Duglas, Stanhope.
BELGIANS (Variegated or Buff).—1, J. N. Harrison.
NORWICH (Clear Yellow).—1 and 2, J. Duglas.
NORWICH (Clear Buff).—1, R. Pearson, Durham. 2, J. Duglas.
NORWICH (Yellow, Variegated, or Marked).—1, J. Baxter. 2, R. Pearson.
NORWICH (Variegated or Marked).—1, J. Shield, Sunderland. 2, R. Pearson.
LIZARDS (Golden-spangled).—1, R. Pearson. 2, J. N. Harrison.
LIZARDS (Silver-spangled).—1, J. N. Harrison. 2, R. Pearson.
GOLDFINCH MULES (Mealy).—1, G. Shield. 2, J. Baxter.
GOLDFINCH MULES (Jonque-marked).—1, R. Pearson. 2, G. Shield.
GOLDFINCH MULES (Mealy-marked).—1 and 2, J. Baxter.
LINNET MULES (Marked).—1, J. Baxter. 2, T. Hardy.
CANARY MULES (Any variety).—1, R. Pearson. 2, J. Baxter.
GOLDFINCHES.—1, R. Pearson. 2, H. Nevison, Willington.
LINNETS.—1, H. Nevison. 2, J. N. Harrison.
BRITISH BIRDS.—1, T. Allenby. 2, A. Milne.
SIX CAGE BIRDS IN ONE CAGE.—1, R. Pearson. 2, J. Stephenson, Sunnyside.

JUDGES.—*Poultry:* Mr. R. Teebay, Fulwood, Preston. *Pigeons:* Mr. T. J. Charlton, Bradford. *Cage Birds:* Mr. T. Ridley, North Shields.

POULTRY AT THE GUILDFORD AGRICULTURAL ASSOCIATION'S SHOW.

THIS took place at Guildford on the 13th and 14th inst.

DORKINGS.—*Grey.*—1, E. May. 2 and 3, J. Ivery & Son. *Chickens.*—1, J. Ivery & Son. 2, M. Putney. 3, E. May. *c*, C. Pannell. *White.*—1, A. B. Friend. 2, G. Cubitt, M.P. *Blue.*—1 and 2, W. Franks. *c*, W. Belcher.
COCHINS.—1, J. Pares, Postford (Buff). 2, Curtis & Ashby (Buff.)
SPANISH.—1 and 2, F. James, Peckham.
BRAHMAS.—1, J. Pares (Light). 2, P. Crowley (Light).
GAME.—1, A. C. Crosse. 2, J. Pares (Black).
HAMBURGHS.—1, M. Reker (Golden). 2, J. Moon (Silver-spangled).
BANTAMS.—1, F. James (Game). 2, G. H. Gillam (Black Red Game). *hc*, J. Attlee (Black). *c*, — Martram (Duckwing Game); Curtis & Ashby (Game); P. Crowley (Black).
DUCKS.—1, J. Ivery & Son 2, Mrs. Norris. *c*, A. C. Crosse; M. Putney; E. Burge; Hon. F. Crosse; E. G. Austen. *Any variety.*—1, J. Ivery and Son. 2, Mrs. Norris.
GEESE.—1, W. Messenger. 2, Virgo & Son. *hc*, J. J. Stainton (Toulouse). *Goslings.*—1, W. Messenger.
TURKEYS.—1, W. Messenger. 2, J. C. Ramsden. *Poults.*—1, W. Messenger. 2, Countess Lovelace.
EXTRA PRIZES.—*Any variety not exhibited in the above classes.*—1, Rev. J. Chilton (Crève-Cœurs). 2, Hon. F. Scott (Houdans). *Dorkings* (White).—*Chickens.*—1, G. Cubitt, M.P. 2, W. Attlee. *Dorkings* (Blue).—*Chickens.*—1, W. Belcher. 2, W. Franks. *Dorkings* (Blue).—1, W. Belcher. *Dorkings.*—1, J. Ivery & Son. *Geese.*—1, Ivery & Son.

HECKMONDWIKE POULTRY SHOW.

THE eighth annual Exhibition of Poultry and Pigeons was held at Heckmondwike, on December 27th.

COCHIN-CHINA.—1, J. & F. Brooke, Huddersfield. 2, J. R. Walker, White Lee.
BRAHMA.—1, J. & F. Brooke. 2, J. Ledgard, Millbridge.
GAME.—*Black-breasted.*—1, J. Fell, Adwalton. 2, J. Wilson, Calverley, Leeds. *Brown Reds.*—1, W. Fell, Adwalton. 2, H. Beanland. *Grey and Blue Duckwings.*—1, W. Fell. 2, B. Naylor, Heckmondwike. *White or Piles.*—1, R. & H. Walker, Gomersal. 2, W. Carver, Southowram. *Black or Brassy-wings.*—1, J. Brooke, Gomersal. 2, R. & H. Walker.
HAMBURGHS (Oold and Silver-pencilled).—1, J. W. Wright, Cleckheaton. 2, Hainsworth & Fairbank, Farsley.
ANY OTHER VARIETY.—1, J. S. Senior, Dewsbury. 2, W. H. King, Rochdale. *Cock.*—1, J. S. Senior. 2, J. Fell. *Hen.*—1, H. Beanland, Bradford. 2, J. S. Senior.
BANTAMS.—*Red Game.*—1, G. Noble, Staincliffe. 2, C. Clegg, Heckmondwike. *Duckwing Game.*—1, J. Hirst, Heckmondwike. 2, J. Speddiog, Chickenley. *Black.*—1, J. Waddington, Guiseley 2, T. Parker, Preston, Heckmondwike. *White* (Any other variety).—1, J. Kay, Staincliffe.
PIGEONS.—*Antwerps.*—1, J. S. Senior. 2, E. Wharton, Hightown. *Owls.*—1, J. S. Senior. 2, J. W. Horsfield, Dewsbury. *Dragoons.*—1, J. Nutter, Cleckheaton. 2, T. Kilburn, Batley Carr. *Turbits.*—1, J. Kemp, Haslingden. *Fantails.*—1, J. Kemp. *Common.*—1, J. Parker, Heckmondwike. *Any other Variety.*—1 and 2, J. W. Horsfield.
JUDGE.—J. Dixon, Esq., Horton, Bradford.

FALKIRK POULTRY SHOW.

THIS was held in the Corn Exchange, Falkirk, on the 24th and 25th inst., and the following were the awards:—

SPANISH.—1, R. Somerville, Edinburgh. 2, W. C. Hardie, Carron. 3, J. Fergus, Polmont. *Chickens.*—1, J. Fergus. 2, R. Dickie, Alva. 3, W. C. Hardie.
DORKINGS (Any colour).—1, D. Annan, Cupar Fife. 2, A. Cowie, Airdrie. 3, M. Edwards, Hilton, Alloa. *Chickens.*—1, 3, and *hc*, T. Raines, Stirling. 2, M. Edwards.
COCHIN-CHINA (Any colour).—1, A. Campbell, Largs. 2, G. F. Lyon. 3 W. R. Park, Melrose.
BRAHMA POOTRA (Any colour).—1, J. A. Dempster, Stirling. 2, H. W. Peple, Perth. 3, J. W. Morrison, Kirkcaldy.
SCOTCH GREYS.—1 and 3, W. Gibb, Newarthill. 2, A. Johnston, Bathgate.
HAMBURGHS (Golden-spangled).—1 and *hc*, J. Jardine, Kilmarnock. 2, Mrs. Brown, Abercairney. 3, A. Robertson, Kilmarnock.
HAMBURGHS (Golden-pencilled).—1 and 2, A. Pratt, Kirkcaldy. 3, W. R. Park. *hc*, J. Richmond, Kilmarnock.
HAMBURGH (Silver-spangled).—1, R. Bruce, Busby. 2, D. Forrester, Linlithgow. 3, A. Penman, Cardenden, Lochgelly. *hc*, J. Watt Will, Errol.
HAMBURGHS (Silver-pencilled).—1, M. Bearpark, Northallerton. 2, R. Thomson, Kirkcaldy. 3, W. Gibb.
POLANDS (Topped).—1, Mrs. J. P. Proctor, Hull. 2, R. M'Nab, Cardonald, Govan. 3, A. Cowie.
GAME (Any colour).—1, R. Stewart, Kelty, Blair-Adam. 2, W. Chalmers, Leslie. 3, A. Erskine, Easter Shieldhill. *hc*, J. Blair, Blairingone.
CROSS OR COMMON BREED (Any colour).—1, G. F. Lyon. 2, J. Tod, Bowhouse. 3, A. Binnie, Grahamston.
ANY OTHER DISTINCT BREED.—1, J. T. S. Paterson (Houdan). 2, W. R. Park (Crève-Cœur). 3, J. Pollock (Malays).
DUCKS (Aylesbury).—1, J. Dod. 2, A. Robertson, Kilmarnock. 3, R. Dickie, Alva.
DUCKS (Any other variety).—1 and 2, A. Robertson (Ronen). 3, J. Wilson, Nicolton. *hc*, G. F. Lyon, Kirkmichael House (Muscovy).
TURKEYS (Any variety).—1, W. Forbes, Callendar. 2 and 3, J. Webster, Mungal Mill.
GAME BANTAMS (Any colour).—1, T. Raines, Stirling. 2, R. Brownlie, Kirkcaldy. 3, C. Peebles, Errol. *hc*, J. Robertson, Burntisland.
BANTAMS (Any variety).—1, R. Brownlie (Sebright). 2, J. Watt Will (Black). 3, D. Forrester (White).
SELLING CLASS (Any variety).—1, R. Dickie (Spanish). 2, W. S. M'Laren, Edinburgh (Buff Cochins). 3, J. Bow, Halls of Airth (Dorkings). *hc*, Mrs. Carswell, Stenhousemuir. *c*, L. M'Donald (Spanish).
PIGEONS.—*Pouters.*—1 and 2, A. Wright, Woodville, Morningside. 3, J. Morrison, Woodville, Morningside. *Carriers* (Any colour).—1, J. Bruce, Dunfermline. *Fantails* (Any colour).—1, J. G. Spence, Edinburgh. 2, W. R. Park. 3, W. C. Hardie, jun., Carron. *Jacobins* (Any colour).—1, J. G. Spence. 2, T. Paterson, jun., Melrose. 3, R. B. Heggie, Kirkcaldy. *Tumblers* (Short-faced).—1 and 3, J. Bruce. 2, F. D. Wood, Edinburgh. *Tumblers* (Long-faced).—1 and 3, F. D. Wood. 2, J. Bruce. *Any other Variety.*—1, T. Paterson, jun. 2, J. Morrison (Trumpeters). 3, W. R. Park. *hc*, C. S. Neilson, Falkirk (Barbs).
CANARIES.—*Yellow Cocks.*—1, J. Halley, Carron. 2, A. Cowie. 3, D. Slight, Grahamston. *Hens.*—1 and 3, D. Duncan, Carron. 2, A. Cowie. *Buff Cocks.*—1, A. Cowie. 2, A. Riddell, Carron. 3, W. Muirhead, jun., Alloa. *Hens.*—1 and 2, A. Cowie. 3, D. Slight. *Yellow Piebald Cocks.*—1 and 2, A. Cowie. 3, D. Slight. *Hens.*—1, W. Gilmour, Alloa. 2, J. Morrison, Alloa. 3, D. Duncan. *Buff Piebald Cocks.*—1, J. Halley. 2, A. Cowie. 3, D. Duncan. *Hens.*—1, D. Duncan. 2, J. Morrison. 3, A. Pearson, Abbotshaugh.

JUDGES.—*Poultry:* Messrs. M'Nab, Barrhead; J. Paton, Stewarton; J. M'Innes, Paisley; and M'Lauchlan, Paisley. *Pigeons:* Mr. J. Paton, Stewarton. *Canaries:* Messrs. S. Brown, Glasgow; and J. Robertson, Burntisland.

ABERDEEN POULTRY AND PIGEON SHOW.

THE first annual Show of the Aberdeen Poultry and Pigeon Association was held in the Artillery Gymnasium, Queen Street, Aberdeen, on the 23rd and 24th inst., and was very successful. There were upwards of 230 entries, and the following prizes were awarded:—

GAME (Any colour).—*Cock.*—1, W. Moir, Woodside (Brown Red). 2, 3, and *hc*, J. M'Pherson, Aberdeen (Black Red, Duckwing, and Brown Red). *Hens.*—1, W. Ewart, Stoneywood. 2, T. Skinner, Woodside. 3, W. Hay, Aberdeen. *Chickens.*—1, W. Anderson, Carnoustie (Ginger Red). 2, W. Ewart. 3, J. Donald, Granitehill, Rubislaw.
SPANISH.—*Cock.*—1, Mrs. Grassick, Colinton, near Edinburgh. 2, Mrs. Stronach, Sunnybank, Old Aberdeen. 3, G. Schaschke, Aberdeen. *Hens.*—Vase and 1 for best pen of Poultry shown, Mrs. Grassick. 2, F. M'Crae, Cunnigar Hill, Aberdeen. 3, A. Catto, Oldmeldrum. *hc*, Mrs. Stronach. *Chickens.*—1 and 2, Mrs. Grassick. 3, W. Fraser, Aberdeen. *hc*, T. Skinner. *c*, F. M'Crae.
DORKINGS (Any colour).—*Cock.*—1, Miss H. R. Lind, Ladiesford, Fraserburgh (Dark). 2, W. Fraser (Grey). 3, B. Ferrier, Woodside. *hc*, W. Snowie, Menymusk. *Hens.*—1, W. Fraser (Grey). 2 W. Snowie. 3, Miss H. R. Lind (Dark). *hc*, J. Simpson, Drigton, Durris. *Chickens.*—1, B. Ferrier, Woodside. 2, Miss H. R. Lind (Dark).
COCHIN-CHINA (Any colour).—*Cock.*—1, J. Calder, Aberdeen. 2, Mrs. Stronach. 3, G. Campbell, Tillinamalt, New Pitaligo. *Hens.*—1 and 2, J. Calder. 3, Mrs. Stronach. *hc*, J. Young, Aberdeen. *Chickens.*—1, J. M'Donald, Carnoustie. 2, W. Fraser. 3 and *hc*, Mrs. Stronach.
BRAHMA POOTRA (Any colour).—*Cock.*—1 and Prize for second best pen of Poultry shown, G. Robb, Bridge of Don, Aberdeen. 2, G. Davidson,

Bridge of Don, Aberdeen. 3. J. Johnstone, Aberdeen. *hc*, Mrs. Jeffrey, Woodside. *Hens.*—1 and 2, Mrs. Stronach. 3, J. Johnstone. *Chickens.*—1, J. M'Donald. 2, Mrs. Leighton, Baldarroch, Banchory. 3 and *hc*, Mrs. Stronach.

Hamburghs (Gold or Silver-pencilled).—*Cock.*—1, W. Abel, Persley (Golden). 2, G. Caithness (Golden). 3, W. Webster, Lower Middlefield, Woodside (Golden). *hc*, P. M'Robbie, Sunnyside, Aberdeen (Golden). *Hens.*—1 and *hc*, G. Laing (Golden). 2, Mrs. Stronach (Golden). 3, G. Campbell. *c*, W. Mearns (Golden).

Hamburghs (Golden-spangled).—*Cock.*—1 and 3, Mrs. Stronach. 2, Mrs. Brown, Abercairney, Crieff. *Hens.*—1, J. Still, Aberdeen. 2, W. Mearns, Aberdeen. 3, W. Abel.

Hamburghs (Silver-spangled).—*Cock.*—1, J. M'Andrew, sen. 2 and 3, Mrs. Stronach. *hc*, G. Caithness. *Hens.*—1, J. M'Andrew. 2, W. Grant, Aberdeen. 3, G. Caithness. *hc*, Mrs. Stronach.

Any other Variety.—*Cock.*—1, Mrs. J. M'Adam, Woodfield, Banchory (Houdan). 2, J. Marshall, Rosemount, Aberdeen. *Hens.*—1, Mrs. J M'Adam (Houdan).

Game Bantam (Any colour).—*Cock.*—1 and Medal, A. Dewar, Garlogie (Black Red). 2, J. M. Campbell, Bonnykelly, Newbith. 3, W. Soutar, jun., Udny. *hc*, E. Duncan. *c*, W. Hay, Aberdeen. *Hens.*—1, A. Dewar (Black Red). 2, F. M'Crae (Duckwing). 3, W. Hay. *hc*, E. Duncan.

Bantam (Any other variety).—1, Mrs. R. Frew, Sinclairston, Kirkcaldy (Sebright). 2, H. W. Pople, Perth (Black Red).

Ducks (Aylesbury).—1, Mrs. Cruickshank. 2, 3, and *hc*, Mrs. Stronach.

Ducks (Any other variety).—1, J. M'Pherson. 2, Mrs. Clark.

Turkeys (Any colour).—1, J. Duncan, Auchmilleddie, New Deer. 2, 3, and *hc*, Mrs. Stronach.

Geese.—1, Mrs. Dugnid, Ardmore, Udny. 2, Mrs. Leighton, Baldarroch, Banchory. 3, Mrs. Clark.

Selling Class.—1, L. M'Donald, Netherdurdie, Errol (Dark Grey Dorkings). 2, A. Catto (Spanish). 3, J. M. Campbell (Silver-spangled Hamburghs). *hc*, Miss A. Chalmers, Aberdeen (Brahma Pootra pullets). *c*, Mrs. M'Adam (Houdan).

PIGEONS.

Pouters (Any colour).—*Cock.*—1, F. M'Crae (Red). 2, Macgill Skinner, Edinburgh. 3, J. Sharp, Johnstone. *Hens.*—1, J. Sharp. 2 and 3, F. M'Crae. *Pair.*—1 and Medal, G. Schaschke, Aberdeen (White). 2, F. M'Crae (Yellow).

Carriers (Any colour).—1, M. Skinner. 2 and 3, G. Schaschke.

Tumblers (Almond).—1, Medal, and *hc*, J. M'Donald, Aberdeen. 2, F. Cooper, Arbroath.

Tumblers (Any other variety).—1, F. M'Crae (Blue Beards). 2, 3, and *hc*, J. M'Donald (Black and Baldheads).

Jacobins (Any colour).—1 and Medal, J. Sharp. 2, J. G. Spence, Edinburgh. 3, F. M'Crae (Yellow).

Fantails (Any colour).—1, W. Harper, Aberdeen. 2, W. R. Park, Abbot's Meadow, Melrose. 3, J. Sharp. *hc*, W. Soutar, junr., Udny. *c*, J. G. Spence.

Barbs (Any colour).—1, W. Harper (Black).

Turbits or Owls (Any colour.—1 and Extra prize, J. Sharp (Turbits). 2, A. Middleton (Owls). 3, W. R. Park (Turbits). *hc*, J. G. Spence (Owls). *c*, J. M'Donald (Turbits).

Nuns or Magpies (Any colour).—1 and 3, J. M'Donald (Nuns). 2, A. Catto (Magpies). *hc*, J. Sharp (Magpies).

Any other Variety.—1, 2, and *hc*, F. M'Crae (Blue Brunswick, Bluebeards, and Frillbacks). 3, J. Sharp (Helmets).

Trumpeters (Any colour).—Silver Medal, J. Sharp.

Pouters (Pied).—Medal for best pair of any age, F. M'Crae.

Oil Painting for the best pen of Pigeons, G. Schaschke.

Silver Medal to the most successful Competitor in Poultry and Pigeons Mrs. Stronach, Sunnybank, Old Aberdeen.

JERSEY POULTRY SHOW.

(From a Correspondent.)

Jersey, in the immediate vicinity of the cradle of the French breeds of poultry—Normandy, has just held its second Show. The entries for so small a place and the necessarily local competition, were numerous, being 359. This success is mainly due to the liberal prize list, and to the indefatigable energy of the Secretary, Mr. E. Pond. The prizes, on account of their small value, are no great temptation, but by adopting the policy of offering prizes for any breed which has once been shown and commended by the Judges, the Committee insure to every amateur in the island a fair opportunity of comparing the merits of his particular pets with those of others of the same kind. It is puzzling to know how the judges at poultry shows, where all the French breeds, Andalusians, Minorcas, Silkies, Malays, &c., have to go into the "Any other variety" class, come to a right conclusion, for not only can there be no comparison between a Malay and Crève-Cœur, or a Minorca and a Houdan, but the French breeds cannot, among themselves, bear the least comparison. How is it possible to compare a Crève-Cœur with a Breda or La Fleche, and a hope be justified that a fair award will be attainable?

The Show was held in the Vegetable Market, which is a lofty, well-ventilated structure, 80 feet wide and 188 feet long. Half this space lengthwise was boarded off for the Show, and gaily decorated with flags and evergreens. The pens were arranged in two single rows on the two sides, with a double row, and a single row on the top, down the middle. The Show in the evenings was well lighted with gas. The pens were supplied by Mr. Billet, of Southampton, and were all that could be desired, with the exception of those for Dorkings and French breeds, which were too small, and consequently showed the birds at a disadvantage.

The *Dorking* classes were poorly filled, but one or two of the Coloured Dorkings were very fine. *Cochins* were well shown, especially the Buff and Partridge. *Brahmas* were numerous and fine in both Dark and Light, and deserved more cards of commendation than were awarded, many pens of the highest merit receiving no award. The *French* breeds were well shown, the Black Crève-Cœurs, Houdans, and La Fleche deserving all they received. Black Bredas were not so good. In the "Any other French variety" the first prize went to Blue Bredas, second to White Crève-Cœur, highly commended to Blue Crève-Cœur. *Gueldres* shown in this class could not bear comparison with their opponents, though a high commendation would have done no harm, as they were perfect specimens. *Spanish* were not shown to advantage. *Andalusians* were badly shown, except the first-prize pen, which was first-rate. *Minorcas* were good; but here we come to the *crême de la crême*—viz., the *Game*, *Bantams*, and *Malays*. Not a bird in these classes but deserved notice, the Malays being especially fine, both the Dark and White varieties. *Hamburghs* were good. Among the *Polish* were some good birds.

Turkeys, *Geese*, and *Ducks* were very fine in all the classes. Fancy birds—Gold, Silver, Mexican and common Pheasants, Peacocks, Partridges, Quails, and a collection of Parrots, contributed not a little to the attractiveness of the Show. Ornamental Waterfowl comprised Sebastopol Geese, Wigeon; Wild, Carolina, and Buenos Ayres Ducks.

Pigeons and *Rabbits* were good but not numerous.

At this small local Show not only were the most numerous entries made by committeemen, but without them there would have been no show, and it would be impossible to find a committee to manage the Show without them, no one taking a sufficient interest. I must mention here an act of disinterestedness on the part of the Secretary, who is an ardent fancier, which I am far from thinking a necessity. All his birds were exhibited not for competition. Whatever he may have lost in prizes he more than gains in the good opinion of the other exhibitors.

The following is the list of awards:—

Dorkings (Any variety).—*c*, Rev. W. Lemprière, Rozel. *Chickens.*—1, E. A. Neel. 2, G. R. Ivimy.

Cochin-China (Cinnamon and Buff).—1, P. W. Le Quesne. *hc*, Capt. Robin. *Chickens.*—1, P. W. Le Quesne. 2 and *hc*, Capt. Robin.

Cochin-China (Brown and Partridge).—1, Capt. Robin. 2, P. De Gruchy. *hc*, R. A. Neel. *Chickens.*—1, Capt Robin. 2, J. Le Rossignol. *hc*, Capt. Robin; P. Gosset.

Cochin-China (White).—1 and 2, Capt. Robin. *Chickens.*—2 and *hc*, Capt. Robin.

Brahma Pootras (Dark).—1, Capt. Robin. 2, Lieut.-Col. Le Gallais. *hc*, P. W. Le Quesne. *Chickens.*—1, Capt. Robin. 2, P. W. Le Quesne. 3, Capt. Howell. *hc*, E. A. L'Oste.

Brahma Pootra (Light).—1, E. A. L'Oste. *c*, Capt. Robin; E. A. L'Oste. *Chickens.*—1, E. A. Neel. 2, E. A. L'Oste. *c*, Capt. Robin.

Crève-Cœurs (Black).—1, J. Ereaut, jun. *Chickens.*—1 and 2, Capt. Robin.

Houdans.—1, W. P. Le Quesne. 2, Capt. Robin. *hc*, J. Le Rossignol. *Chickens.*—1, P. W. Le Quesne. 2, G. De Faye. *hc*, P. De Gruchy.

La Fleche.—*hc*, Capt. Robin. *Chickens.*—1, J. Blampied. 2, P. De Gruchy.

Bredas (Black).—*Chickens.*—1, Capt. Robin.

French (Any other variety).—1 and *hc*, J. Ereaut, jun. 2, Capt. Robin.

Spanish.—1, Dr. R. King, sen. 2, P. Le Quesne. *hc*, Capt. Robin. *Chickens.*—1, Capt. Robin. 2, J. Pluck. *hc*, G. De Faye.

Andalusians.—1, T. B. Hutton. 2, Col. Le Gallais. *Chickens.*—2, J. Blampied. *hc*, G. De Faye.

Minorcas.—1, G. De Faye. *Chickens.*—1, J. Pluck.

Game (Black-breasted Red).—1 and 2, J. Voisin. *Chickens.*—1 and 2, H. Gibson. *hc* and *c*, J. G. Falle.

Game (Brown and other Reds).—1 and 2, J. Voisin. *hc*, J. G. Falle. *Chickens.*—1 and *c*, J. G. Falle. 2 and *hc*, J. Voisin.

Game (Duckwings and other Greys and Blues).—1, E. Gumbrell. 2, J. G. Falle. *hc*, A. J. Ronsseau. *Chickens.*—1, 2, and *hc*, J. G. Falle.

Game (Whits and Piles).—*Chickens.*—2, J. Voisin.

Malays (Any variety).—1 and 2, J. G. Falle. *Chickens.*—1, 2, and *hc*, J. G. Falle.

Hamburghs (Black).—1, Capt. Robin. *Chickens.*—1, G. De Faye.

Hamburghs (Golden-pencilled).—1 and 2, Capt. Robin. *Chickens.*—1, Capt. Robin.

Hamburghs (Silver-pencilled).—1, Capt. Robin. *Chickens.*—1, E. Tomkins. 2 and *hc*, Capt Robin.

Hamburghs (Silver-spangled).—1 and 2, G. De Faye. *Chickens.*—1 and 2, G. De Faye.

Polish (Black with White Crest).—*Chickens.*—1, G. De Faye.

Polish (Golden).—1, S. R. Delme. 2, J. Blampied. *Chickens.*—1, E. A. L'Oste.

Polish (Silver).—*Chickens.*—1, J. Le Rossignol. 2 and *c*, E. A. L'Oste.

Any other Distinct Variety.—1, E. A. L'Oste (Silkies).

Crossbreed.—2, Capt. Robin. *hc*, E. Pond.

Barndoor.—1, P. Gniton. 2, G. de Ste. Croix.

Bantams (Gold-laced).—1, J. Le Rossignol.

Bantams (Silver-laced).—*c*, Rev. Worth.

Game Bantams (Black-breasted Red).—1, P. W. Le Quesne. 2, Capt. Howell. *hc*, — Nicolle. *c*, E. A. L'Oste.

Game Bantams (Duckwing).—1, — Nicolle. 2, — Abererombie.

Bantams (Any variety).—J. Le Rossignol. *c*, J. Braddon.

Guinea Fowls.—1, — Dugdale. 2, J. Le Rossignol.

Turkeys (Black).—*Poults.*—1, — Denize. 2, — Dugdale.

Turkeys (Any variety).—1, P. Gosset. 2, E. A. L'Oste, *hc*, P. de Gruchy. *Poults.*—1, — Billet. 2, E. A. L'Oste. *hc*, E. A. L'Oste; E. Neel, jun.

Geese (White).—*Goslings.*—1, — Dugdale.

Geese (Grey and Mottled).—1, E. A. L'Oste. *Goslings.*—1 and 2, E. A. L'Oste.

Ducks (White Aylesbury).—1, J. Le Rossignol. 2, J. Ereaut, jun.

Ducks (Rouen).—1 and *hc*, P. de Gruchy. 2, J. Le Rossignol.

Ducks (Any other variety).—1 and 2, — Dugdale.

Pheasants.—2, Mrs. R. Gray.

Pheasants (Any other variety).—1 and 3, Mrs. R. Gray. 2, J. G. Falle. Extra Prize, P. Pinel.

Partridges.—2, J. Le Rossignol.

Quails.—2, J. Le Rossignol.

Ornamental Waterfowl.—1, J. G. Falle.
Ducks (Carolina).—1 and 2, J. G. Falle.
Ducks (Buenos Ayres).—1, J. G. Falle. 2, Miss C. Carey.
Ducks (Wild).—1, J. G. Falle.
Widgeons.—*hc*, J. G. Falle.

Pigeons.—*Carriers* (Any colour).—1, J. Le Rossignol. 2 and *hc*, P. W. Le Quesne. *Pouters.*—1 and 2, P. W. Le Quesne. *Fantails.*—1 and 2, J. Le Rossignol. *Tumblers.*—1, W. P. Le Quesne. *Jacobins.*—1, W. Hamon. *Owls.*—1, P. W. Le Quesne. 2, G. De Faye. *Runts.*—1 and 2, Capt. Robin. *Trumpeters.*—1, W. B. Dugdale. 2, J. Le Rossignol. *Nuns.*—1, J. Le Rossignol. *Frizzles.*—1, — Nicolle. *Any other Variety.*—1 and 2, J. Le Rossignol. 3, G. De Faye. *hc*, — Gregory; A. Hamon.

Rabbits.—*Lop-eared.*—1, A. J. Rossean. 2, G. De Faye. *Himalayan.*—1, Miss Pond. 2, G. De Faye. *Any other Distinct Variety.*—1, — Lang. *Any Variety.*—1, G. De Faye. 2, — De Carteret.

Judges:—Messrs. Falle, Pond, W. Godfray, Billet, Ogier, M. Gibaut, and J. Robin.

STOCKTON CANARY SHOW.

The institution of a new show should be noticed with pleasure by all lovers of the Canary. Stockton-on-Tees has made its effort, and a very praiseworthy one too, and has added its name to the now rapidly increasing list of "fixtures" of annual shows.

The Exhibition was held on the 18th inst. in the Temperance Hall, under highly influential local patronage. The entries were quite on a par with those of other shows in the same district, while the names of the winning exhibitors are ample evidence of the quality of the birds shown. There was but one thing to mar the pleasure of the proceedings, and that was the detection of a stained bird. In the execution of my duty as a Judge, and with a settled determination to expose such malpractices, I deem it right to make these matters public whenever they come under my notice. The bird in question was exhibited by Messrs. Layfield & Ellerton, of Darlington, but in justice to them I must say that the explanation tendered by them to me exculpates them from blame. I regret exceedingly to say that the deeper I stirred the investigation the more offensive became the effluvium, while the widely extending *tu quoque* circles of recrimination included in their area names which astonished me. I venture to express the hope, however, that we have seen the last of such doings. Let us not have our beautiful hobby defiled by the existence of such dishonest practices.

The Belgians stood first on the schedule, and I managed to get through them to the satisfaction of all present, notwithstanding Mr. Wallace's assertion that I am not a "proper person" to judge them. I do not see that because a man is not an enthusiastic admirer of any particular bird he cannot recognise its beauties. There are many things I can recognise which I do not admire; I can recognise unkind and ill-natured remarks, but I do not admire them. I should like to have passed an opinion on Mr. Bulmer's first-prize Buff Belgian hen; but what can I say? I do not want to hurt Mr. Wallace's tender susceptibilities. Shall I say she was a sylph? a fairy? a Venus? Well, so she was, but I mean a Venus "of the period," with a delightful "Grecian bend!" I do not like Belgians, I won't like them, but if ever I *do* invest, commend me to one like Mr. Bulmer's hen.

Messrs. Moore & Wynne's Jonque Norwich was a superb bird. In the Variegated Jonque class they showed a fine specimen, which being judged by a very dull light in the early morning, did not receive such an award as I should have given it later in the day, when its merits became more apparent. In "Variegated Buff Norwich" and "Dark-crested" birds, Messrs. Moore & Wynne were again unapproachable, though Messrs. Irons & Gayton were second in the latter class with a beautiful hen.

The Lizards were a very good sample, and included some respectable birds. Cinnamons were poor, excepting the winning birds, which were very meritorious. The Yorkshire were unsatisfactory, but the Variegated birds were very good. I wonder what Mr. Wallace means when he says he is *creditably* informed that "this variety of bird is unknown in Sunderland?" I think his informant makes a very dis-creditable statement; but Mr. Wallace having lived a lifetime in Sunderland, and knowing every fancier in it as intimately as I myself do, ought not to write as a stranger. However, I have no wish to disturb the placid surface of the pages of "our Journal" by personal remarks which can be of no public benefit, and will content myself with this comment on his strictures. "*Et tu, Brute!*"

Norwich Greens were again mixed up with the long pea green birds, I mentioned in my notice of Darlington. I still prefer to use the term pea green, albeit Mr. Wallace says there is no such colour in a Canary. To my mind it conveys a better idea than "black green" or "blackish green," though I find no fault with his definition. In the "Any other variety" class Messrs. Irons & Gayton were first with a very pretty evenly-marked and crested Cinnamon.

The Goldfinch Mules were a good class, and I think Moore & Wynne's dark Mule grows more beautiful every time I see it. Of Goldfinches, Linnets, and other British birds there were forty-nine entries, making a show by themselves.

The arrangements were excellent, and every attention was paid to the birds during the Show. I wish Stockton Show the success it deserves.—W. A. Blakston.

The following is the list of awards:—

Belgian (Clear Yellow).—1 and 2, W. Needler. 3, R. Robinson.
Belgian (Clear Buff).—1, W. Bulmer. 2, W. Needler 3 J. N. Harrison.
Norwich (Clear Jonque).—1, Moore & Wynne. 2 and 3, Pennock and Blackstone.
Norwich (Clear Buff).—1, W. Winter. 2, Pennock & Blackstone. 3, Moore & Wynne.
Norwich (Variegated Jonque).—1, E. Mills. 2, Pennock & Blackstone. 3 Moore & Wynne. *c*, T. Peat.
Norwich (Variegated Buff).—1 and 3, Moore & Wynne. 3, Irons and Gayton.
Canary (Dark or Grey-crested).—1, Moore & Wynne. 2, Irons & Gayton. 3, J. Taylor. *c*, Pennock & Blackstone.
Canary (Clear-crested).—1, Irons & Gayton. 2, J. Garbutt.
Lizard (Golden-spangled).—1, M. Barton. 3, W. Bulmer.
Lizard (Silver-spangled).—1, J. Fryer. 2, J. Taylor 3, M. Burton.
Lizard (Golden or Silver-spangled with broken cap).—1, I. Cherry. 2, J. Moses. 3, R. Hawmao. *c*, J. Leek.
Jonque (Cinnamon).—1, Irons & Gayton. 2, E. Mills. 3, W. Bulmer.
Buff Cinnamon.—1, E. Mills. 2, Moore & Wynne. 3, Irons & Gayton.
Canary (Clear Yellow Yorkshire).—1, J. Vale. 2, H. Ward. 3, M. Burton.
Canary (Clear Buff Yorkshire).—1, J. Garbutt. 2, H. Garbutt. 3, H. Ward.
Canary (Variegated Yellow Yorkshire).—1, J. Leek. 2, J. Taylor. 3, M. Burton. *c*, A. Brown.
Canary (Variegated Buff Yorkshire).—1, J. Taylor. 2, A. Brown. 3, M. Burton.
Canary (Clear Green).—1, M. Burton. 2, H. Jerrison. 3, R. Fidler.
Canary (Any other variety).—1, Irons & Gayton. 2, Moore & Wynne. 3, T. Armstrong.
Collection of Six Canaries in Variety.—1, R. Caugbey. 2, R. Hawman. 3, T. Armstrong.
Goldfinch Mule (Variegated).—1, R. Hawman. 2, E. Howe. 3, W. Needler.
Goldfinch Mule (Dark).—1, Moore & Wynne. 2 and 3, M. Burton.
Goldfinch.—1, J. N. Harrison. 2, Moore & Wynne. 3, W. Burniston.
Linnet (Brown, Moulted).—1, J. N. Harrison. 2 and 3, W. Nicholson.
British (Any other variety).—1, S. M'Cune. 2, E. Howe. 3, W Thompson.
Foreign (Any variety).—1, R. Harker. 2, T. Jobling. 3, D. Feerney.

Judge.—Mr. W. A. Blakston, Sunderland.

THE GLASGOW PIGEON SHOW

(North British Columbarian Society's).

THE GENERAL CLASSES.

Although throughout the country important exhibitions of Pigeons are of almost weekly occurrence, it seldom happens that reports sufficiently detailed make their appearance. No apology, therefore, is needed for noticing at some length the eleventh annual Show of the North British Colnmbarian Society, for fanciers prefer the permanence of a journal report.

The Drill Hall in Stirling Road was chosen as the scene of the Exhibition, a well-lighted room of large size and admirably adapted for the purpose, but for its excessive coldness at this season. By an inadvertence the Show was announced for a date so near to the Manchester Exhibition that a large nnmber of entries from English fanciers were lost, and the varieties other than Ponter were from this cause meagrely represented, falling short in quality perhaps even more than in quantity. It is to be hoped that such a source of loss will in future be avoided, for the Glasgow Show might easily become the representative Show of the kingdom, a position at present occupied by the Birmingham Club by reason of its greater uniform strength in all varieties.

The competition in young birds was strictly confined to members, and this is the only novelty in the schednle calling for remark. As an inducement for fanciers to join the Society such an arrangement can scarcely be canvassed, otherwise the propriety of "young classes" at all, but especially for Barbs and Carriers, is open to question. In their first season the difference of age may be so great as to place the birds on unequal terms, and it frequently happens that the awards are not justified by the after-career of competitors when brought together again in the adult classes.

Clearing the way for the Ponters—the Scotch favourites, by first discussing the general classes, we find that in *Carriers* the honours fell chiefly to Mr. Holt, a member, and to Mr. Ord, of London; Mr. Ord standing first both in Black and Dun cocks, and in Carriers of any other colour taking all the prizes unopposed. His Black and Dun cocks were, perhaps, open to the exception of being slightly down-faced, while the Dun was somewhat deficient in eye, a defect intensified by the low temperature of the hall. Mr. Holt figured as first in birds of 1869, with a very promising pair of Blacks, and in addition to some minor awards in the old classes, took the first prize in Dun hens, and the first also in Black hens, with a bird displaying considerable style—a property not nearly so much cultivated by Carrier fanciers as it deserves, in their efforts to develope head points.

It will hardly be a digression to express our surprise that any breeders of this great variety, claiming also to be fanciers, should lately have had the temerity publicly to disparage the grand properties of style in favour of head and wattle. What good reason can be given for ignoring style? The true art of the breeder is discovered in his ability to combine highly-developed head, face, and wattle with grandeur of form, size, and carriage. A musician being once asked what were the requirements to success as a vocalist replied, "One hundred things are necessary, ninety-nine times a good voice, and one good method." Just so in Carriers. We require the ninety-nine times a good head, and one grand style, but be it understood that

the one grand style is simply and uncompromisingly indispensable. Without it this bird must cease to enjoy its pre-eminence as the "King of Pigeons," a title which it had deservedly earned long before the head points were so highly developed as at present. The pernicious effect of the novel doctrine in question is becoming more and more apparent, even at our greatest shows, and it is scarcely an exaggeration to assert that some of the birds in the Dragoon classes have more pretensions to a genuine Carrier style than many of our prize-taking Carriers themselves. Our fanciers may well, then, devote their utmost attention to the maintenance of the undulating serpent neck, the prominent chest, stout shoulder, long pinion, slender girth, tight feather, brilliant plumage, the upstanding defiant attitude, and all those other items of style characterising this noble variety.

As usual, the fame of Mr. Montgomery was effectively heralded by his *Trumpeters*—all the awards in Blacks and all the prizes in Mottles falling to his share. The success of this gentleman is mainly due to an extraordinary pair of Trumpeters which some seasons ago found their way into the English market from Russia, where this quaint variety is held in great estimation. The parent bird even now maintains his superiority over all comers, and, with his heavily crowned head obscuring beak and eye, his shaggy booting and squat carriage, may not inaptly be described as the "Skye Terrier" of the Pigeon kind. Mr. Montgomery, who has made the most of his opportunity, must continue to lead in Blacks and Mottles until other fanciers meet with his good fortune, or until his strain be dispersed. In Whites, however, Messrs. W. Oates and P. H. Jones were unopposed, standing respectively first and second.

Much discussion was excited by the awards in the *Fantail* class. Fanciers of this popular variety do not appear agreed as to the strain for cultivation. Thus, while the majority affect birds comparatively coarse, of large dimensions, and of somewhat upright bearing, a select few, headed by Mr. Hnie, have been endeavouring to establish a strain of Indian extraction, more delicately framed, and of surpassingly beautiful carriage. Two such pairs, exhibited by Mr. Hnie, would unquestionably have taken the highest honours, but for the fact that they had been slightly clipped, merely, however, for the purpose of personal identification, and because at last year's show the ownership of some birds in this class was disputed. Displayed in the show pen they called forth the admiration of all who saw them, and, although neither pen nor pencil can do justice to peculiarities only to be estimated whilst the birds are in motion, we may state that they differ favourably from the ordinary variety in diminutiveness, gracefulness of form, and piquancy of carriage. In this latter particular they are simply unique. Stepping daintily on the tips of their slender toes, they seem subject to an incessant and uncontrolled tremulous motion of the neck and head. Meantime, their breasts, compact and prominent, are much elevated, while their meek-looking heads, well thrown back and touching the very base of the tail feathers, are mostly curled over to one side or the other of delicately shaped necks. Between drooping flights is poised the spreading fan of their tails, and in whatever direction the birds are viewed they present a series of the most exquisite curves. A variety so interesting must in the long run supplant its hitherto successful rivals. In the present instance it was a matter for general regret and sympathy that the happy possessor of such specimens should have been debarred the prize by the accident named. But in these days of unscrupulous marking for sinister purposes, judges are beginning more and more to feel that they must rigidly disqualify all entries open to objection; thus it has frequently happened of late that exhibitors of unimpeachable honour have innocently fallen victims, and a more conscientious exhibitor than Mr. Hnie does not exist.

The remaining standard classes brought forward little or nothing of exceptional merit. Mr. J. H. Frame, however, a member and very keen fancier, showing but three pens, had the credit of carrying off first, second, and third prizes for *Barbs* of 1869, leaving but a commendation for his fellow exhibitors. Messrs. Montgomery, Wherland, Jones, and Meff shared the awards for old Barbs, the birds requiring no comment, being in several cases already well known.

In the unclassed varieties a pair of *Damascenes*, shown by Mr. Wallace, and said to be from one of the palaces of the Sultan, deservedly attracted much attention. These birds displayed much character about the head, which is of the Owl type, and is relieved by a dark beak and thin slatey-coloured eye wattle. There are no other structural properties of novelty, but the plumage is particularly soft and delicate in effect.

As a whole, the general classes must be considered as decidedly under average merit, but this deficiency finds a compensation in the superior excellence of the Ponter classes, to which we shall direct attention in detail next week.

NOTES ON FANCY PIGEONS.—No. 15.

THE LADY'S PIGEON, THE FANTAIL.

Having spoken of the three high-class Pigeons, the Ponter, the Carrier, and the Tumbler, I must next speak (as in chivalrous duty bound), of the lady's Pigeon, the Fantail; for certain it is that all ladies greatly admire this bird, whether they be fanciers or not. Among all the varieties a lady's eye at once picks out this graceful, striking-looking, and swan-like Pigeon—indeed the bird itself looks especially fit to be a lady's pet; and the hen Fantail, if well bred, looks in her extremely delicate beauty the very lady of the whole race.

It is strange how we come to associate persons, or creatures, or things with places. Thus I have a particular local association with the Fantail. Above thirty years ago, when a little lad, I was accustomed to pass through, and sometimes stay at, a village or small town in the very heart of the Fens of Cambridgeshire, called Thorney. It is known as the "Gem of the Fens," and the contrast it presents to the bare, black, treeless earth, and black wide drains of the country around, is certainly remarkable. Thorney, like every place in the Fens ending in "ey," whether Ramsey, or Whittlesey, or Godney, is an island, or rather was one when in olden times the Fens were under water, and these islands have a different surface soil and subsoil to the fen country around; on them grow the oak, and the elm, and the beech, and especially giant ashes, and wherever these trees grew they marked out to the eye some island amid the watery waste, having a firm rich earth wholly unlike the shaking Fens around. Not unfrequently, too, as at Whittlesey, there are fine strong old houses of massive stone, and heavily timbered. These were built at great expense by the lords of the manor, for no stone was near, and were inhabited by them during parts of each year while they and their friends came down to the Fens and amused themselves with wildfowl-shooting and fishing. In those slow-travelling, or rather no-travelling days, these Fens were what the Scotch moors are now to the sportsman.

But to return to Thorney. You crossed the Wash, or an extreme inland part of it, and crept along by a straight road running parallel with a sluggish, black-looking, black-bottomed leam or drain cut by the Dutch drainers, and passing on you entered a wholly different country, for you were at Thorney, amid trees well grown, highly cultivated gardens, houses of the most respectable kind, well built and with a crust of old age upon them, all saying, "This was a respectable place a hundred years ago, and a hundred years before that, just as respectable as now." To add to this look, there stood Thorney Abbey, at least what remained of it, now the parish church. The secret of the look of the place, beside what nature had done, consisted in this, that the monks of old had been there ages ago, and a great duke had held the abbey lands (very broad ones), ever since the monks lost them. In the centre of an open space stood the great duke's great steward's house, as great a man as the duke, and infinitely greater to the trembling tenant backward in his rent; greater because the great duke never came there. He lived far away at Woburn Abbey, in Bedfordshire—very far away indeed in those pre-railway days; and at the steward's house I first saw a flight of Fantail Pigeons. I connect them, therefore, with that place.

A white pole-house octagonal and ornamental stood on the lawn; but the pretty, graceful, white Fantails loved to promenade and coo all along the flat broad top of the wall that separated the steward's house from the road. Ah! I should have liked to have seen the Thorney boy who had dared to have thrown a stone at the steward's lady's Pigeons—that boy would have been of a marvellously independent nature. Well, duke, and steward, and steward's wife have long since passed into another world. But, as I said, there I fell in love with Fantail Pigeons, and thought them, and still think them, the most ornamental of all Pigeons for keeping loose about a pretty country place. Their colour, white, looks well whether the birds are promenading on a lawn, or a gravel walk, or on a wall, or whether they are basking on a building; and especially beautiful do they look if tame and feeding in a group at your feet. Indeed, they are perfect ornaments for a residence; never straying or flying far, their beauty is always present. They have not, indeed, the cleverness of Tumblers, but are thoroughly dependent pretty little dears, like their lady admirers. They will also become remarkably tame if pains be taken. The Fantail is one of the few varieties in which the hen is superior to the cock, for a well-bred Fantail hen has a super-delicate and graceful look which no cock can boast of. Her head is thinner, her neck more slender, and she is smaller in size. Yet the cock has his special merit, for when perfectly clear, as all Fantails ought to be, there is on his neck a particular, bright silver hue, which glitters in the sun as he swells his throat to coo. This is seen, also, even to greater perfection, in white cock Pouters.

In Fantails white is the original, and therefore the best colour, and its whiteness is dazzling and snowlike—so different to the white of any variety of bird in which black is the origi-

nal colour and white merely a sport or imported by a cross, as in the case of white Barbs, whose white is but a smudgy white compared to that of a Fantail. Anglo-Indians tell me that in Hindostan, where some of the natives are ardent Pigeon-fanciers, the Fantail is a great favourite and is always white, and they admire most those birds which throw their heads furthest back. When other-coloured Fantails are shown they are always inferior, and some even ugly (to my mind); for instance, the blue birds are so, seen from behind—a white Fantail always looks best: so much does the bird owe to its colour.

Fantails, although preferring, when feeling at home and at ease, to walk on the ground or bask on a wall or low roof, and never taking a fly round, yet, if strange and frightened, will fly some distance, as over a church and across a breadth of shrubbery. It is well never to let them out in high winds, as their tails are then very burdensome to them, and prevent them even walking with comfort. Fantails seem in their disposition to be very affectionate, as you may notice that a pair are constantly sitting side by side.

I now wish to state a few words on the judging of Fantails at shows. I wholly disapprove of the judges deciding entirely by the flatness of the tail; that is as bad, or even worse, than judging Almonds simply by the head and beak. Where you find a perfectly flat tail you find usually a coarse head, a short neck, and little or no motion, and large legs; indeed, instead of a delicate bird, highly tremulous, and so elegant that every one must notice it, you get a strong-looking and coarse bird. I have been watching and breeding two opposite strains of these birds the whole of this year—the larger and very flat-tailed variety so in favour with some English judges, and the delicate *petite* bird whose head is lost behind its neck, whose motion is incessant, and whose elegance is supreme; and yet some judges appear to be guided entirely by a tail, flat I grant, but tipping forward towards the head, like an artificial thing, while the bird has no motion and little elegance of shape, and all this while the proper name of this Pigeon is—the Broad-tailed Shaker. Carriage, and motion, and smallness must be more looked to, and with them let breeders try to get as flat a tail as may be, but with the former and more valuable points well developed; the result will be the exhibition of birds which even a novice will pause over and regard as something quite unlike a common Pigeon. The coloured birds, doubtless, get their colouring from a cross with a Runt, and are often neatest in shape.—Wiltshire Rector.

ORIGIN OF THE HIMALAYAN RABBIT.

It appears to me that the theory favoured by "Duckwing"—namely, that the Rabbit commonly called Himalayan is a cross between Silver-Greys and Chinchillas—is very far-fetched and hard to believe. The distinctive characteristics of the Himalayan are so peculiar that it is difficult to imagine any amount of ingenious crossing to produce the Rabbit we now see under that name. There is generally some reason for the name of a thing, if we only knew it, and an unexpected incident occurred only a fortnight ago that induces me to believe that the breed of Rabbit called Himalayan is so called because it is common in, though not peculiar to, the Himalayan Mountains. An old Indian friend whom I had not seen for fifteen years, and who had resided all that time at Simla (the European settlement in the Himalayas), followed me into my rabbitry, without our having had a word of conversation about any particular breed. On seeing my Lop-ears he at once innocently remarked, "I have never seen Rabbits of that kind before—the Rabbits we see at Simla are all either grey or little white things with dark noses, ears, and feet." I exclaimed, "Himalayan?" to which he replied, "I never heard them called there anything but Rabbits, whatever you may call them, and, as butcher's meat is often hard to get, we all kept them for domestic use, the same as we did poultry." After a long and, to me, interesting conversation, which he had unconsciously started, I could come to no other conclusion than that their Rabbits, as he described them, were what we call Himalayans, making allowance, of course, for the marking not being so defined as with us, who have a special aim in view in breeding and showing.

Another gentleman who had spent many years in China asked not long since, when we were looking at all kinds of Rabbits belonging to a mutual friend, "How did you get these Chinese Rabbits?" We told him they were not Chinese, but Himalayan, but he assured us in the most positive manner that he had shot hundreds in the neighbourhood of Shanghai, as well as some few in the coffee plantations in Ceylon. We tried hard to shake his evidence as to the identity of the breed, but could not, and the conclusion I come to is that it is a distinct breed, and that in its natural state it mixes with no other.—B. Hudson, *Hull.*

CRYSTAL PALACE CANARY SHOW.

May I be allowed, through the medium of your paper, to inform Canary-fanciers in the United Kingdom of the following?—Mr. Wilkinson has most courteously given his consent to the following plan, and I hope and trust with all my heart it can be carried out. It is intended at the next show at the Palace to give a silver cup to the best bird in each variety, and it is proposed to raise £30 or more, to be subscribed by fanciers and admirers of the different varieties, and with this money to buy cups of the value of from £3 to £5 each, in proportion to the amount raised, and a cup will be given to the best bird in the various classes in each variety. For instance, if the first-prize bird in Clear Yellow Norwich is better *as a yellow* than the first-prize bird in Clear Buff is *as a buff*, then the former will take the cup in Classes 1 and 2, variety Norwich, and so on all through. This is the way it is intended to apportion the cups, eight in all:—

Norwich	1 and 2, Clear Yellow and Buff	One cup.
Norwich	3 to 8, Variegated and Crested Yellow and Buff	One cup.
Belgian	9 to 13, Clear, Variegated, and Crested	One cup.
London Fancy	14 and 15, Jonque and Mealy	One cup.
Lizard	16 and 17, Gold and Silver-spangled	One cup.
Cinnamon	18 and 19, Jonque and Buff	One cup.
Mules—Canary and Goldfinch	21 to 24, Clear and Variegated Yellow and Buff	One cup.
Mules—Linnet and Canary, and any other variety	26 and 27, Linnet Mules and other varieties	One cup.

Norwich have two cups, but as the classes in that variety are so numerous, and generally so well filled, it is only fair that it should be so. The number of cups will of course depend entirely on the manner the admirers of the different varieties respond to the call; if sufficient cannot be raised for any particular variety, to give at least a £3 cup, no cup will be given at all in that variety, and all the money collected will be returned; if more than enough be raised, then, on the other hand, more cups will be given to that variety which has received the extra amount, and so on. For instance, if the Norwich variety fanciers subscribe enough for four cups, then four cups will be given; if the friends of any other variety, say Lizards, do not subscribe at least £3, then no cup will be given to Lizards at all.

Mr. Blakston, of Sunderland, has kindly consented to receive subscriptions for the cups for Belgians and Mules, and I will make arrangements with some well-known fanciers to collect for Norwich and other varieties. I shall send a circular to every likely fancier, and I shall be happy to receive subscriptions from any one, and for any of the classes.

I have great pleasure in informing the Canary world that a gentleman, whose name I may not yet divulge, a great winner in poultry and Pigeons, told me on Monday last at the Manchester Poultry Show that he had nearly made up his mind to join our ranks. I only hope he will. I think, too, ere long we shall see "Wiltshire Rector's" name among the winners. Gentlemen like these will do more good than a thousand "painters and stainers."—Howarth Ashton, *Polefield Hall, Prestwich.*

DR. PREUSS ON FOUL BROOD AND INFECTION.

(*Continued from page* 496.)

We shall in the first place more closely examine Cryptococcus, as it is the parent and constant concomitant of a familiar process—viz., fermentation.

The science of fermentation is no easy one, and it cannot lie within the scope of this article to treat polemically on the various theories which have been advanced. Hallier's work on Fermentation, Putrefaction, and Decay, which I have already mentioned, affords ample information on the subject.

The original idea of fermentation was, that it is the decomposition of a fluid attended by gaseous development, but it has long been proved by scientific investigation that the development of gas is by no means an essential condition. On the other hand, it is essential that the body to be decomposed by

fermentation should be an organic one, and that a ferment or leaven be present, with the introduction and removal of which the process begins and ends. This leaven increases itself during fermentation, but only a portion of it, 1·2 to 1·5 per cent., enters into the new formation—the lees. The opinion has been maintained that it is only by contact that leaven can excite fermentation. According to Hallier's experimente, however, this opinion is fundamentally wrong. If fermentation were a chemical process to which the dreg-formation gives the first impulse, but which, if once set up, becomes self-sustaining, it would not be possible for it to come suddenly to a standstill, as frequently happens in many manufacturing processes, such as brewing, &c. Among the conditions of fermentation (as well as of the increase of the before-named mycological forms) are a certain degree of moisture, a suitable temperature, and the presence of some nitrogenous substance. Although a temperature of from 10° to 40° R. (55° to 123° Fahrenheit) is the most favourable to fermentation, the possibility of the process is limited only by the boiling and freezing points. It may also occur in the absence of nitrogen, as is proved by the fact that by the addition of a few cells to a solution of sugar, which is free from nitrogen, fermentation may be set up, although only to a limited extent.

If we examine common yeast under the microscope, we find that it consists entirely of innumerable ellipsoidal, but nearly globular, corpuscles, in which we immediately recognise the form of Cryptococcus. I find, after repeated measurements, that the usual yeast corpuscles, Cryptococcus cerevisiæ, have a length of 0·008 millimètre (1·275 line), and are consequently larger than the Cryptococcus found in foul brood, which has a diameter of 0·002 millimètre (1·1095 line). These globules multiply, as we may plainly perceive under the microscope, by forming a bud on a spot situated mostly near the longer axis, this rapidly increases, separates itself from the parent stock, and commences the same process anew.

We readily perceive from the foregoing sketch of the natural history of these forms of fungus, that we can produce yeast by sowing mildew. As soon as mildew germinates in any saccharine fluid, its spores disseminate the Micrococcus, which, if there be a trace of nitrogen in the fluid, rapidly swell and develope into Cryptococcus, the common yeast fungus. This can, of course, increase by division *ad infinitum*, but its origin is to be traced to the ordinary brush-mildew. It is necessary carefully to remember this derivation of every yeast fungus from one particular mildew, in order perfectly to understand what follows.

Now, although the common yeast fungus varies but little, if anything, in size whilst confined to the usual liquids capable of fermentation, it assumes different sizes when present in other substances. If we sow brush-mildew in fatty oil, it forms a ferment, which differs from Cryptococcus cerevisiæ in the minuteness and great delicacy of its sporules. Relying upon this fact, I explained in my first paper on foul brood that the common fermentive fungus might possibly assume the smaller form of Cryptococcus alvearis when present in the interior of the larvæ.

Now, as the brush-mildew is the first parent of the fermentive fungus, we can raise a ferment from any other kind of mildew by sowing its spores in liquor capable of fermentation, and by this means obtain different forms of Cryptococcus —*ex. gr.*, Rhizopus nigricans, Ehrenberg, if sown in bilberry-juice produces very minute cells.

The contents of fungus spores which consist of Micrococcus granules, if in contact with or immersed in substances in which nitrogen predominates, do not become Cryptococcus by swelling, but retain the kernel form, and, appropriating the surrounding nitrogen, increase ad infinitum by division.

This smallest form of Micrococcus,* the kernel-cell kernel-ferment, is the cause of most, if not all the epidemic diseases of man and of animals. Their extreme minuteness renders it possible for them to be received into the most delicate blood vessels, either through the air or especially by means of impure drinking-water. Their capacity for increasing indefinitely by division without passing into higher forms, together with their peculiarity of luxuriating not only in the body, but about houses, in beds, and on dung-heaps, accounts for their great power of propagating infection.

It is a long while since medical men first discovered a striking analogy between the fermentive process and the spread of many infectious diseases. Several decades ago they already surmised that it must be conditional upon and propagated by minute forms of vegetation. They were especially led to embrace this opinion when the cholera travelled from Asia all over Europe in 1831. One of the first advocates of the new theory was the Privy Councillor Franz von Gietl, physician in ordinary to the King of Bavaria. Even so long ago as 1831 he advanced this opinion, which has since been defined more distinctly in his subsequent works. He says:—"One cannot get rid of the idea that it is an infinitely minute organic body, such as, perhaps, the sporules of cryptogams, mildew-vegetation, &c., but so small that it cannot be made evident to our senses even by the aid of all possible auxiliaries. During the cholera of 1837, Böhm found in his examination of the mucous membrane of the intestines that a minute fungoid form was there accumulated in masses, and flourishing at the expense of the intestinal fibre. These observations were repeated during all subsequent epidemics. In 1866, F. Klob and Thomé determined this fungus form to be the cause of cholera, but it was reserved for the ingenious experiments of Hallier to throw full light upon the matter. He succeeded by means of a peculiar propagating apparatus in developing from the Micrococcus found in choleraic evacuations the higher fungus forms from which it is derived. This propagating apparatus consists of bell-glasses, under which the Micrococcus is disseminated in a soil adapted to it. As the most diverse spores continually congregate in the atmosphere, care must be taken that these do not intrude. Hence the bell-glass is first purified by being boiled out and then cleaned with alcohol, and after being placed over the Micrococcus it is insulated by means of water, which is disinfected daily. Springing from the top of the bell-glass are two glass tubes, which are luted to it, and which run in different directions. Through one of these the air is withdrawn from the bell by means of an air-pump, whilst through the other its place is supplied by air which has been passed through alcohol, by which all fungoid elements are destroyed. The sown Micrococcus being kept at a suitable temperature, now developes itself into that form of fungus to which it owes its origin. These experiments having been made repeatedly and with the utmost care, have furnished the most remarkable results. It is found that *the parent stock of the choleraic Micrococcus is the rice-blight fungus, Urocystis oryzæ*, which is totally unknown in Europe, and is, indeed, peculiar to the rice-plant only. Cholera, therefore, originates in the rice-fields of India, whence the Micrococcus has spread itself all over the globe. It reaches the ground by means of choleraic evacuations, and there (especially in dung-heaps) it continues to increase. Through drinking-water or by other means it enters into other individuals, in whom, if they are predisposed, it continues to thrive, especially on the mucous membrane of the intestines. Science, therefore, proves that the so-called Asiatic cholera is continually being imported and transported, and thus explains many hitherto most mysterious cases.

Little as these details may appear to belong to a bee paper, I yet believe that they will facilitate the comprehension of foul brood. For this reason I quote some further examples.

In the variola of sheep is found a Micrococcus from which, by cultivation, Plospora herbarum is produced. This fungus occurs on rye-grass, Lolium perenne, and this fact coincides remarkably with an opinion which is generally entertained by the most distinguished veterinary surgeons and sheep-breeders, that damaged hay is the cause of small-pox among these animals.

From the Micrococcus of the cow-pox is produced Torula rufescens. This form of fungus abounds in the milk, especially in the colostrum, of a cow which has recently calved. As cow-pox seldom or never occurs in either bulls or oxen, and as even in cows it is usually confined to the udder, it may be conjectured that the cow inoculates herself with this disease by means of her own milk.

The mycological organism of human small-pox consists of the same fungus in a different stage of development, and consequently the effect of vaccination amounts to this—that the same vegetation cannot flourish twice in the same individual.

From the Micrococcus of measles proceeds Mucor mucedo, which occurs in the excrement of man and of animals. It is probable, therefore, that epidemic measles owes its origin to open closets and middens.

In like manner it has been possible to distinguish signs of the constant presence of Micrococcus cells in sixteen infectious diseases, from each of which a distinct fungus has been developed.

I may cite, as an example of the growth of the *third stage of*

* A decimal was omitted in the second paragraph of page 495. The diameter of Micrococcus should have been there stated at 0·0004 millimètre, instead of 0·004.—A Devonshire Bee-keeper.

mildew (Oïdium), that infectious scald-head (Achorion Schönleinii) is nothing but the Oïdium of the usual brush-mildew, so that we have at once in *fig.* 3 a representation of the filaments of this form. The difficulty of its cure arises in this way: the minute filaments of the Oïdium penetrate into the interstices in the texture of the skin, whither the exterminating action of an external remedy is unable to reach it, so that even when apparently destroyed it continually springs afresh from its hiding-place. In this manner may be explained the obstinacy of many other skin diseases, which arise from the action of parasitic vegetable forms.

Numberless examples occur throughout nature of the powerful effects of the minutest forms of fungus. Of these I quote a few:—If the starch with which body-linen is stiffened contains blight-fungus, this fungus developes itself on the human skin as Pityriasis (little scab). The Oïdium of Aspergillus Ustilago produces Herpes tonsurans, which causes the hair of the head to fall off. The muscardine kills the silkworm caterpillar, which first becomes of a reddish colour, and stiffens and often dies whilst spinning its cocoon. Oïdium Tuckeri, the grape fungus, is destructive to the vine. The potato disease, often so disastrous to entire nations, is produced by Fusisporium Solana, Oïdium violaceum, and Peronospora devastatrix, all of which are proved by recent investigations to be only different forms of the same fungus.

Milk-fever arises from Bacillariæ, a rod-like form of fungus.

It may be perceived by the foregoing, that in the present advanced state of science and of scientific instruments, we are in a position to examine directly all these minute forms, as well as to prove their natural history, and, by the theory founded on their discovery, can readily explain what often appears wonderful in the manner of infection, and the transport of diseases by intermediate bodies, as well as their propagation after a long interval of time. Hallier relates an instance in which small-pox had long since quitted a room. A mason scraped the walls, and a few days afterwards was attacked by the disease. Every medical man can cite similar cases from his own practice. As all the phenomena of the vast celestial universe became explicable after the promulgation of the Copernican system, so after the discovery of the effects of these minutest forms, many terrestrial phenomena, and especially those relating to infectious and epidemic diseases, can be explained without difficulty. When the opponents of the parasitic theory say that its adherents need seek for nothing farther, they indeed accord to it the highest meed of praise that can be given. Truth demands no forced interpretation; she is throughout simple, and easily understood.—Dr. Preuss, *Sanitätsrath.*

(To be continued.)

THE BEE YEAR 1869.

QUEEN ENCASEMENTS AND LATE-BRED DRONES.

I believe it will be generally admitted, both by English and Scottish apiarians, that the bee year of 1869 opened and closed rather favourably. In Scotland, especially, we commenced with the brightest prospects. The close of the previous year found most of our apiaries in the best condition. Stores were ample, and the character of the autumnal months conduced to keep up throughout a good population, and thus to add an important element towards future prosperity—namely, a considerable number of young bees. For my own apiary, bees wintered remarkably well; comparatively few dead, and scarcely any symptoms of dysentery appeared. The result was that the opening season found my hives in splendid condition. Still the apiarian, guided by former experience, knows quite well that the best appearances in February do not always betoken future prosperity. Ample stores are good, and population excellent, but there is one individual unit, one important personage in each colony, upon whom more depends than anything else. This is the queen, and now, therefore, comes the trying, testing season of her real condition. Hence, in large apiaries we must not be unprepared, as March and April approach, for several marked changes or declensions, and probably some deaths.

As far as the weather was concerned there was not much to complain of. The bees were occasionally deterred from prosecuting their labours, but, on the whole, there was no serious check to onward progress through the spring months. Some of the best and earliest-flowering plants, such as the gooseberry, pear, and apple, afforded excellent pasturage in my own locality, and when May arrived several of my hives exhibited great advancement. Drones appeared ten days earlier than in ordinary seasons, and swarming propensities were already beginning to manifest themselves. Unfortunately a period of cold east winds prevailed about the middle of May, which in my locality evidently exercised as blighting an influence over the ardour of my bees as they did over the various products of garden and field. Hence the bees of most of my advanced hives were completely frustrated in their emigrating intentions, and the most strange anomalies, freaks, and out-of-the-way proceedings took place. Well versed and much experienced as I am in all the forms and phases of this the most interesting department of apiarian science, natural swarming, I confess I never observed so many anomalies occurring as during the past summer. This arose, as I have said, from the unfavourable weather which prevailed during the latter half of May, during which the old queens were absolutely prevented from leading off the first swarms as in ordinary circumstances.

It was about this time, the 21st of May, I think, that one of your esteemed contributors paid me a visit. The day was inauspicious, and the apiary all but silent. Right in the doorway of one of the hives a suspicious-looking cluster about the size of a hen's egg attracted my notice, to which I drew my friend's attention. On a more minute examination we found it was a queen encasement, and on dispersing the bees a beautiful queen was found lifeless in the midst. A dissection proved her to be normally fertile, the spermatheca exhibiting the usual well-known appearances in such circumstances. But for the explanation. If a stranger queen, how came she there? if the hive's own queen, why her encasement and death? My friend suggested the former, on the supposition that another hive might have thrown a swarm that returned, and the queen, missing her way, had entered this the wrong hive, and hence her captivity and death. The bad weather, however, was against this view, and, besides, the queen was an Egyptian, exactly corresponding to the one I knew the hive possessed. A few more days, however, cleared up the mystery, and showed that this was indeed the hive's own queen—a queen, too, only one year old, and apparently free from any physical disability. Soon thereafter piping commenced, and on the 28th of May, and 1st and 2nd of June respectively, three swarms issued forth all headed by young queens. In four cases the prime swarms were thus led forth by young queens, the old ones having either been sacrificed or having otherwise disappeared.

First and foremost in my apiary stood at this time another Egyptian colony, domiciled in a large straw skep, which had good stores and an immense population. This hive appeared ready to swarm about the 18th May, but no opportunity was afforded it by reason of the unsuitableness of the weather. On the 29th of May I was astonished to find a young full-grown queen extended dead. Conjecturing that this hive had been in the same position as the Egyptian hive already alluded to, I wished to try an experiment to force a swarm. I have on a former occasion adverted to a practice which I generally found efficacious in forcing after-swarms at any favourable hour of the day I chose—namely, by feeding with a little sugar syrup or honey. I wished now to see if excitement produced by another process than feeding would have the same effect. The process I meant to adopt was simply that of rapping on the upper and anterior part of the hive. Accordingly, on the morning of the 1st of June, the first favourable opportunity which occurred, and about nine o'clock, when the sun began to shine out warmly, I gave the hive several smart strokes with the palm of my hand, and went back a few paces to watch the result. In a minute or two considerable hubbub and excitement followed. By-and-by regimental files of heavily-laden bees, those sure precursors of readiness, slowly but steadily poured out. A slight hitch occurring, I again applied the alarum beat, and off they flew. Unfortunately a passing cloud damped their ardour, and the great mass clustered up and around the skep, and beneath the landing-board, and numbers on the wing began to return. I conjectured the queen had not risen, so I immediately brushed off the hive a large hanging mass of bees, to counteract, if possible, the effects of those returning upon the still rushing swarm. The queen, however, though among the bees I brushed off, did not take wing, and I now found I was too late, as the returning bees prevailed. I tried to collect as many bees as possible, by putting a skep over the queen and those brushed off on the ground, but finding that I could not secure so large a swarm as I could wish, I returned the whole to the parent hive, and thus I was obliged to be contented so far with the result of my experiment. In this *melée* a fine young queen was sacrificed, having been stung to death either by the bees or a rival. During the middle of

the same day the bees again swarmed all right. On the 3rd of June, two days afterwards, another swarm came off, went back, and finally swarmed all right on the 4th.

In another case the old queen accompanied the swarm, but no young queen ever appeared in the old hive, while in the swarm itself a sort of necine war occurred, whereby one-third of the bees were sacrificed, and the poor queen herself narrowly escaped with her life. So much as to swarming anomalies.

In early localities I think bees both swarmed well and stored well; but, nevertheless, I am inclined to think that pasturage was neither so rich nor so long-continued or productive as in other years. Where the white clover was plentiful strong hives made considerable weight, and in several localities some beautiful supers were taken; but even in regard to this, one of the best of honey-yielding flowers, it suddenly gave way, and the bees ceased to gather much from it even after it appeared in good condition. The same remark applies also, and more particularly, to the heather. The blossom appeared abundant enough, but notwithstanding the good weather which prevailed in August, the honey collected from this source was not correspondingly good. There seemed to be a deficiency of nectar secretion in the flowers, owing to the previous dry weather, and altogether the amount stored was unsatisfactory. From the 15th to the 27th of August only did my bees obtain much honey from the heath. During this period they stored at an average from 10 lbs. to 15 lbs. each, but the greater part was deposited, not in the supers, but below. In some parts of Scotland, rich generally in heath pasturage, little or no honey was collected from the heath this season. Still, on the whole, most apiaries, I believe, were found at the close of the bee season in pretty fair circumstances; and speaking for myself, my stock both as to stores and population commenced the winter campaign in excellent condition, well prepared to brave the few bleak and stormy months which lie before them. So far, however, the weather has been very trying, and unless some mild and favourable days occur soon I anticipate dysentery will be more prevalent in our apiaries this winter than during the previous one.

I take this opportunity of adverting to two subjects referred to by your correspondents, Mr. G. Raynor, and "R. S.," of dates November 25th and December 9th, on "queen encasements," and "late-bred drones." In the former Mr. Raynor has been pleased to refer to my articles and views on the very interesting and curious phenomena of queen encasements, and details with much distinctness and accuracy the case and consequences of a Ligurian queen introduced by him into a hive deprived of its own some forty-eight hours previously. My theory, as summed up in the three conclusions quoted by Mr. Raynor, had, however, no reference to such a case as he describes—viz., that of a stranger queen introduced into an alien hive. It had exclusive reference to reigning queens being encased in their own hives, and among their own bees. Mr. Raynor has, I have no doubt, inadvertently overlooked this fact. In my concluding article on this subject, February 7th, 1865, page 104, he will find a description of the kind of encasements to which he refers, together with my views, fully stated, of the various effects which follow from the introduction of stranger queens into queenless hives. I believe there is no uniform rule which obtains in such cases, for that which suits to-day may not answer to-morrow. I congratulate Mr. Raynor on his success in introducing his stranger queen without the aid of a queen cage. With it, I can only say, there would be less risk, and the lengthened encasement to which his queen was subjected would in all likelihood have been prevented.

In regard to the unusually late appearance of drones in one of the hives of your esteemed correspondent, "R. S.," it certainly very much resembles the case referred to as having occurred in my own apiary; but if I should now venture to prophesy as to the fate of this late drone-breeding hive, drawing my inferences from the fate of my own, I regret to say that that prophecy would be the very reverse of favourable. In the following spring my Egyptian hive alluded to produced drones very easily, those detestable small drones, too, bred in worker cells, which at any season are always the precursors of coming ruin. In this case also, they proved to be so. Exhausted fertility continued thus to manifest itself till June, the queen gradually decreasing in her productive power so far as workers were concerned, but continuing to produce both small and large drones, until the bees, instinctively foreseeing their impending fate, set to work, as long as materials were in their power, in constructing royal cells, and thus the old queen was in the beginning of June superseded, she having quitted the hive when the bees apparently ceased to care for her, and when rival thrones were cropping up around her. I have frequently had occasion to notice and admire this instinctive foresight of impending ruin manifested, and the benignant arrangements of Nature, whereby under such circumstances, when exhausted fertility of the queen arrives, drone-breeding as of necessity takes place—an arrangement this, so beneficent, that in numerous instances it becomes, I believe, the very salvation of the colony.

It will be obliging if "R. S." would note the proceedings of the hive referred to, and detail for the benefit of us all its future history.—John Lowe.

OUR LETTER BOX.

Brahma Pootras Vulture-hocked (*Virgon*).—We consider a vulture hock to be a disqualification for a Brahma Pootra cock. We can give no opinion about decisions at any show. We can only state that which is admitted, we believe universally, that given two cocks of equal merit in every other point, a vulture hock in one, while the other had it not, would certainly decide in favour of the latter. Your drawing shows a decided vulture hock—the only approach to one that the partiality of a judge can overlook. We advise you by all means to breed from the clear-hocked bird.—B.

French Fowls (*H. N.*).—The article you speak of appeared at great length some time since, with woodcuts of the birds. As it seems to be forgotten, we will take an early opportunity of returning to the subject.

Preserving Eggs for Sitting (*M. A. S.*).—We do not believe any eggs can be kept six months and then hatched. We do not say it has never been done, but the productive will be "few and far between." Our own practice and experience are so opposed to it, that we not only never set any egg a month old, but we choose the freshest we can. When eggs are plentiful we prefer those that are not more than twenty-four hours old. A kept egg, even if it hatch, produces a weak and sickly chicken.

West of England Poultry Show.—Mr. J. H. Nicholls, Lostwithiel, Cornwall, took cup and first prize for Partridge Cochins.

Quarrelsome Pigeons (*W. Appleyard*).—We fear there is no cure for a regular Tartar of a Pigeon; he seems only to live to make all the others unhappy, so his proper fate is a broken neck. The eccentric Eaton used to box such a bird's ears, half-drown him, fill his mouth with bitter aloes, give him bad water, and rub his food with bitter aloes. All this seems to us great nonsense. The right thing is that a tyrant should die. The only cure would be to get a bird who would master him, but he would in his turn be worse. Some time since we saw a beautiful white Dragoon cock in a common bird shop, and were surprised to see so good a bird in such a place. At once we bought him, but he was one of the tyrants. He would follow a bird over the whole loft, and from slate to slate of the roof of a large house, giving the birds no rest; and being armed with such a dagger of a bill as Dragoons have, he was most formidable. After trying every plan, pulling his wing, &c., we returned him to the shop. The man laughed and said, "He's a little fortune to me, he's sure to come back, and I dare not keep him with any other Pigeon; he's been bought over and over again." Happily these tyrants are not very common, but we have known a Tumbler to be as bad, but less capable of injury than a Dragoon. Fantails are usually peaceable.

Turbits (*Idem*).—The produce will be some point-heads and others shell-heads. Small beans or old tares are the best food for all Pigeons. Good Indian corn may be given as a change, and peas. Hempseed is very bad for Pigeons, and ought never to be given except to make them mate, or a little to tame them, as they will come on your feet or to your hand to get it.

German Paste—Food for Nightingales (*J. H.*).—Take two tablespoonfuls of melted lard, free from all salt, and heat it in a saucepan till nearly boiling; add four tablespoonfuls of treacle, keeping the pan near the fire, but not putting it on again, and stir the treacle well in gradually, keeping the mixture still near the fire, but not near enough to do more than keep it hot; stir in pea meal till the whole is a stiff, crumbly paste. About three pints and a half of meal go to the above quantity. A little mawseed should be finally strewn among it. Nightingales cannot be kept on German paste. The proper food for Nightingales is the yolk of hard-boiled egg chopped fine, with a few bread crumbs, and scraped or finely-chopped raw meat added, meal worms, and ants' eggs.

White Linnet.—*G. M'Dougall* would be obliged by Mr. Witherspoon stating what species or variety he means.

Bath-heating (*A Constant Reader*).—We have not sufficient experience to be able to enter into details respecting the bath, but enough to say that, provided you have plenty of 3-inch piping at the bottom you will have no difficulty in heating the water to 160°.

POULTRY MARKET.—December 29.

We had the usual appearances of a Christmas market—an immense show, hampers piled one on the other, great hurry and crowding, no small confusion, buyers complaining everything was too dear, sellers declaring their goods did not make enough to satisfy the senders. This has been the history of fifty past years, and it was again that of the present year. The supply of good poultry was small, and the prices were good; but as usual, there was much of an inferior quality that found a market with difficulty at a great reduction. We abstain from any quotation of Turkeys, as they are, if of good quality, valuable in proportion to their weight. If we were asked to speak more plainly, we should be compelled to give cock Turkeys from 12*s.* to 30*s.*, and hens from 6*s.* 6*d.* to 16*s.* The value of a cock Turkey is greatly increased by every pound he weighs over 18, and that of a hen by all over 9.

	s. d.	s. d.		s. d.	s. d.
Large Fowls	4 0	to 4 6	Partridges	1 6	to 1 9
Smaller ditto	3 0	3 6	Pheasants	2 6	3 0
Chickens	2 0	2 8	Pigeons	0 9	0 10
Geese	7 0	10 0	Hares	2 6	3 0
Cock Turkeys	0 0	0 0	Rabbits	1 4	1 5
Ducks	2 0	2 6	Wild ditto	0 9	0 10

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